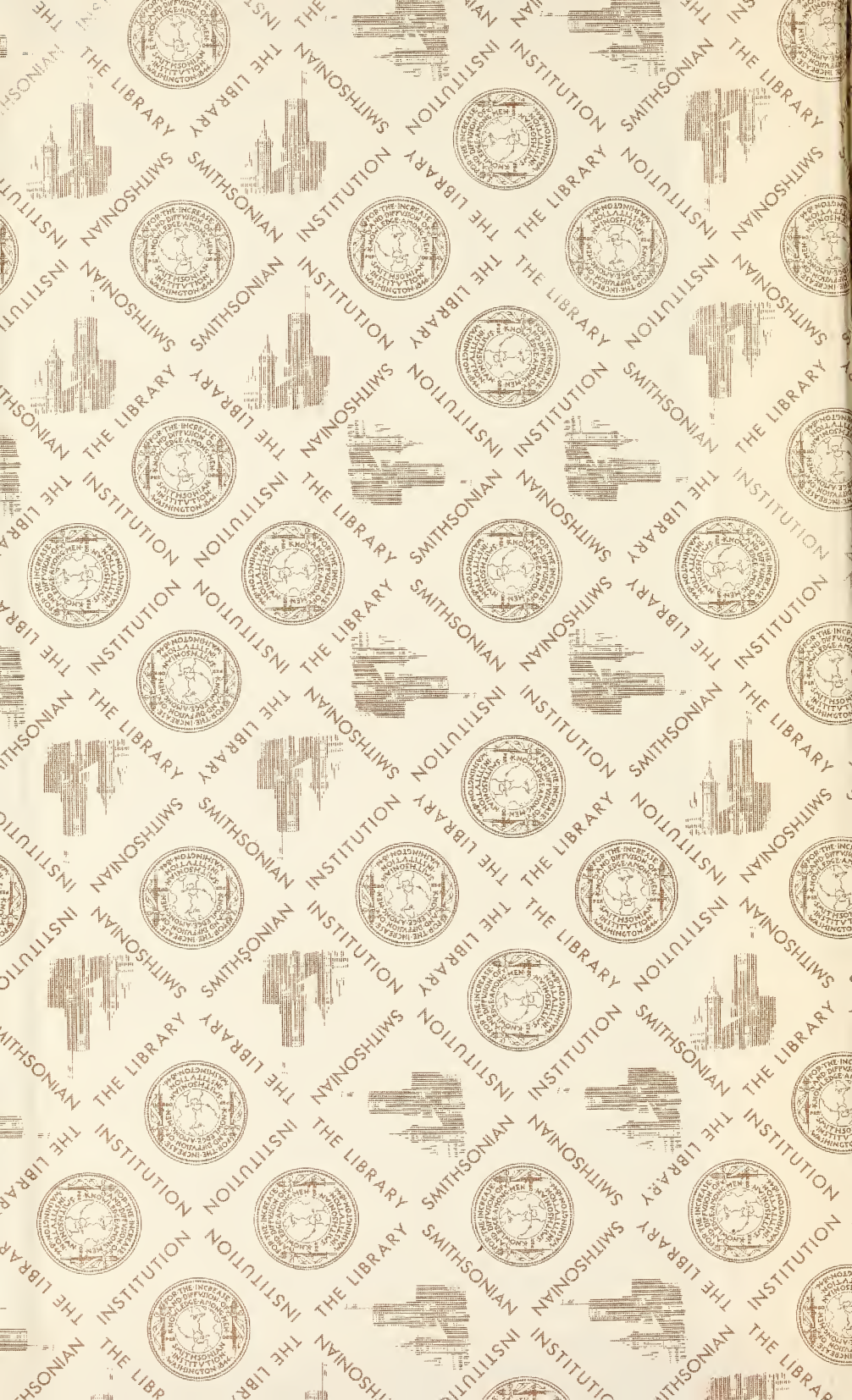
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THE MIGRANT

A QUARTERLY JOURNAL
DEVOTED TO TENNESSEE BIRDS

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ANNUAL AUTUMN HAWK COUNT 1958

By THOMAS W. FINUCANE

The ninth consecutive survey by the T. O. S. of the fall migration of birds of prey, across Tennessee produced a record number of reports. The data are presented in the form of a chart, on Page 4. The number of Broad-winged Hawks was 1600, better than average over the nine years but well below last year's 3000. The outstanding feature in the 1958 data for this species is that a high total was compiled without any spectacular single sighting. The best day's count was 268, made at the Mendota Fire Tower by a group led by James Finucane, Sept. 21. The total hours of observation is listed as 114, slightly above last year's 112. Several of our most experienced observers were unable to participate this year, and some who did take part found the flights of Broad-winged Hawks unaccountably meager in the areas covered. Furthermore, this year only 15 hrs. were spent in the field Sept. 19-24, with a count of 560 Broadwings. The corresponding figures for 1957 were 39 hrs. and 2200 hawks.

The count of the other species was relatively high this year — 174, compared to 164 last year. In these figures, the Sparrow Hawk dropped from 23 to 5, but the Red-tailed Hawk rose from 26 to 52. The difference in the Sparrow Hawk data is largely due to the observation of 5 birds of this species by Richard Nevius last year from Chimney Top Mountain, Sept. 8, and of 13 by the Knoxville Chapter on their Fall Census, Sept. 29, 1957. Most of the Red-tailed Hawk data and nearly all the Sharp-shinned Hawk data were recorded this year by the Kingsport Chapter at the Mendota and Gate City Fire Towers, on the Clinch Mountain.

The Clinch Mountain is a narrow, knobby ridge which runs southwest from Virginia into Tennessee. The Mendota Fire Tower, in Virginia, the Kyles Ford Fire Tower, north of Rogersville, and other points on this ridge have furnished data for the T. O. S. Hawk Count since its beginning. Members of the Kingsport Chapter, who were introduced to the Mendota Tower last year by Fred Behrend, made 16 trips there this fall. Getting there from Kingsport involves 40 mi. of driving, over good roads, and 10 to 30 min. of hiking up a steep trail. This is the most convenient place for Kingsport people to watch the flight of hawks. The knob, about 3000 ft. above sea level, provides a good view in all directions. The tower is 90 ft. high and easily climbed for a better view. All the species on the T. O. S. hawk migration list have been seen from the Mendota Tower knob.

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The Red-tailed Hawk is the only species which was not seen either at close range or flying over the knob. Nevertheless, at least one Redtail was almost always in view, poised in the air above and a little to one side of one of the other knobs more than a mile to the northeast. Now and then the location was changed, or sometimes two Redtails could be seen, usually almost motionless in the air but occasionally flying in the valley below. To avoid counting the same individuals over and over again, we simply listed no Red-tailed Hawks during September. Later in the season these hawks were seen in greater numbers, up to five at one time, but usually much more than one mile away and never within one mile of the observation point. To study this problem further, a trip was made, Oct. 25, to the Gate City Fire Tower, about 15 mi. southwest of the Mendota knob. All observing was done from the lookout house on the Gate City Tower. The view lower down is rather poor. (The same can be said for the road, which goes right to the top of the knob). The Red-tailed Hawks flew close to this tower and also poised motionless in the air over other features of the landscape. Although these hawks were viewed at close range, they were, nevertheless, difficult to count, because of their habit of remaining stationary for a long time and then suddenly moving to a new location by diving and flying in big circles. The total recorded was 10.

The Gate City Fire Tower knob is comparatively large, which explains why the 360-deg. view is poor. Possibly the Red-tailed Hawks do not fly along the Clinch Mountain but merely visit selected locations. The Mendota Fire Tower knob would be too small to qualify. The Broad-winged and the Sharp-shinned Hawks fly past this knob often at close range. The former have been seen flying directly over at a very great height above the tower. The latter usually fly close to the sides of the knobs, and many of these little hawks pass unobserved. At the Mendota knob the Sharp-shinned Hawks sometimes pop up out of an air chute within a few yards of the tower. The Marsh Hawks usually fly over one of the valleys, on the north and south sides of the ridge, and are sometimes seen making a single crossing between knobs, from north to south. When the weather is right, Cooper's Hawk, Eagle, and Osprey fly directly over the tower. Late in the season a Peregrine made a close approach.

These observations on the behavior of the migrating hawks which can be seen from the Mendota Fire Tower indicate just a few of the interesting phenomena which take on more meaning as more visits are made to the same, good lookout station. Consideration of the changing season and the effects of wind and weather on these phenomena add greatly to the complexity and the fascination of this subject.

The following notes are numbered to correspond with the item numbers in the top row of the chart:

4. Sept. 15—The Osprey in this report was observed at 5:30 p.m. as it was flying over the Pigeon River. It flew out over Highway 441, picked up a thermal, and started its ascent. While it was circling, a Black-crowned Night Heron flew directly in its path, extended its neck, and gave a hoarse croak but kept going. The Osprey left in a westerly direction after gaining much altitude.

7. Sept. 20—The Broad-winged Hawks were seen at close range gliding sideways along the side of the ridge, in a light rain and into the wind,

with their feet down. The Bald Eagle was flying along the top of Little Mountain, a remarkably level ridge running parallel to the south of Clinch Mountain.

8. Sept. 21—For a period of three hours there were always Broad-wings visible. The 268 recorded, the largest day's count of the season, were part of a large kettle over one of the distant knobs of the Clinch, where Redtails were counted later in the season. The top of the kettle was lost in a large cumulus cloud which remained stationary over the knob, and the hawks, boiling in and out of this cloud were impossible to count. They were leaving the kettle by various routes, and only those which passed over the Mendota knob were listed in the data.

11. Sept. 22—Mrs. Darnell saw these 61 Broad-winged Hawks while she was "just relaxing, and watching, in a folding cot in the warm sunshine in our back yard".

14. Sept. 27—A low, total overcast all day and a rather strong NNE wind. At 2:25 p.m. an enormous grey cloud arrived and engulfed the look-out point.

16. Sept. 27—Wind conditions apparently hampered flight. The 61 Broad-winged Hawks observed between 11 & 11:30 a.m. were fairly high, circling over the tower (north of Rogersville). Osprey and Redtails were very low. Osprey flew near the tower.

This location is about 45 mi. southwest of the Item-14 location where 21 Broadwings were observed on the same date, on the same ridge (Clinch Mt.). However, these hawks were seen too late in the day to have been counted again at the second location, and all but a few of the hawks recorded at the second location were seen before the arrival time of the observers at the first location.

17. Sept. 28—After several hours with no Broad-winged Hawks, 119 were seen between 4:30 and 5:40 p.m. At 5:11 a large flight went directly overhead, very high, and were noticed only after they were well past the zenith. Some were too far past to count. After 5:30, 27 Broadwings were seen, straight up, looking like black specks to the naked eye, as they flew far above the Mendota knob, a few whirling in tiny circles against the pale twilight sky.

20. Sept. 28—Casual observation, on the Knoxville Fall Census.

22. Sept. 29—Mrs. Dunbar counted these 129 hawks flying over her house in Oak Ridge. She checked the sky every few minutes all day and spotted a flight of 120 between 10:30 and 11:00 a.m.

36. This column includes data from three trips to the Mendota Fire Tower: Sept. 6—3 Ospreys, 1 Bald Eagle, 2 Sharp-shinned Hawks; Nov. 22—2 Coopers, 1 Peregrine, 1 Sparrow Hawk; Dec. 13—1 Sharp-shinned Hawk. Included also are 2 Red-tailed Hawks which flew over Kingsport, Nov. 23, and circled above the same smoke stacks which 3 accipiters were seen circling during the 1957 migration. The Redtails first tried a big steam puff but got no lift out of it.

In 60 hrs. of observation from the Mendota Fire Tower, Ravens were seen only once. Two approached along the ridge from the east at noon, Oct. 18, and returned the way they came, after an hour or more. Both kinds of vultures were seen regularly during September and October.

Three of the 4 Bald Eagles reported this year were adults.

HAWK OBSERVATIONS FALL OF 1958

ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	Total
Date	9/13	14	14	15	19	20	20	21	22	22	22	24	26	27	27	27	28	28	28	28	29	29	10/4	5	5	11	11	12	12	12	16	18	25	26	11/8		
Reporter	A	B	C	D	E	F	G	H	I	D	C	J	K	L	F	M	N	F	K	O	E	P	D	N	D	Q	D	L	R	R	J	N	N	L	S		40
Locality	a	a	b	c	d	d	a	a	e	f	g	a	h	a	d	i	a	d	h	j	d	k	j	a	l	a	m	a	n	p	a	a	q	a	r		
Duration - Hrs.	3	4	2	0			3	5	3	0		4	4	2		5	3	8	4		2	9		6	5	7	1	3	5	2	6	6	6	2			110
Wind Direction	SE	SW	N	W			SW	SW		SW	NW	SW	NE	NE		N	N		SW			NE	W	SE		NW	W	NE		W	W	SE	NW	N	S		
Wind Speed	L		15	2			St	1		2	5	L	5	St		25	30		10	0			1	4	0	10	5	10		5	5	4	St	5	25		
Temp., °F	H	W	72	80			C	W		80	75		82	75		65	70		70	70			65	62	70	60	60	50	60	65		60	55	60			
Sky (weather)	F	F	F	FC			R	V		F	SC	SC	F	O		Cl	FC		F	FC		FC		F	FC	SC	FC	F	FC	FC	SC	SO	F	O	F		
Sharp-shinned Hawk		4						1					5	1										5		22		3			4	9	6			3	63
Cooper's Hawk						1								1		1								6		3					1	4				2	19
Red-tailed Hawk													4		2	2		2	3	2				3		11		2	3		1	3	10	2		2	52
Red-shouldered Hawk				1																			1			2											4
Broad-winged Hawk	25	23	7	7	16		21	268	69	15	61	112	218	21	3	74	119	101	45	2	186	129	1	17	1		23										1564
Bald Eagle							1																												2	1	4
Marsh Hawk						1							2					1	3				1			1				1			1	1			12
Osprey	4			1								1		1		1			1												1				3	13
Peregrine								1																											1	2
Sparrow Hawk														2					2																1	5
Unident. Accipiters																		3										3				3		1			10
Unident. Buteos				3											2			25																			30
Unassigned		1												1										2		4				2	3	2		1			16
GRAND TOTAL																																					1794

KEY TO REPORTERS

A—Mrs. Charlotte G. Finucane, James, Dan, Tommy, Bill, Joe, and Dick Finucane, Kingsport; B—T. and C. Finucane, Kate Hincke; C—Mrs. Chester B. Darnell, Greeneville; D—Paul S. Pardue, Fountain City; E—J. E. Lawson, Chattanooga; F—Mr. and Mrs. Eugene West, Chattanooga; G—J., C., T., and Dan Finucane, Ann Switzer; H—J., C., B., and Patrick Finucane; I—Adele West, Chattanooga; J—Cub Scout Hike, Pack 88, Den 2, Kingsport;* K—Miss Jennie Riggs, Miss Ruth Castles, Mrs. W. F. Bell, Nashville; L—Mr. and Mrs. Thomas W. Finucane; M—Mr. and Mrs. Chester B. Darnell, Dwayne Darnell; N—Tommy, James, and Thomas Finucane; O—Paul Pardue, David Highbaugh, Harold and Kay Garlinghouse, Fountain City; P—Mrs. Robert J. Dunbar, Oak Ridge; Q—Thomas, Dan and Tommy Finucane; R—J. T. Mengel, Harold and Kay Garlinghouse, Paul Pardue, Knoxville Chapter; S—W. E. Gift, Kingsport.

*The personnel included in the Cub Scout Hikes were:

Charlotte Finucane, Wyn Harrison, Louise Weber, Shirley Gates, Tommy Finucane, Bill Finucane, George Crawford, Richard Crawford, Peggy Harrison, Fred Harrison, Richard DeBondt, Darryl Gates, Pat Tokarz, John Moran, Tim Walkey, Steve Onkotz, and David Jones.

KEY TO OBSERVATION STATIONS

a—Mendota Fire Tower, Clinch Mt., Scott, Russell, Washington Co., Va. ..... 3000 ft.
b—Camp Creek
c—Two miles north of Sevierville, end of Chilhowie Mt. ..... 1100 ft.
d—Elder Mt. Fire Tower, near Chattanooga
e—Residence of observer, Chattanooga
f—Martel, 20 mi. west of Knoxville ..... 850 ft.
g—Residence of observer, Greeneville
h—Sunset Rock, Highway 70, Bon Air, 7½ mi. east of Sparta ..... 2000 ft.
i—Fire Tower on Clinch Mt., near Kyle's Ford, north of Rogersville
j—Black Oak Ridge, Fountain City ..... 1500 ft.
k—Residence of observer, Oak Ridge ..... 900 ft.
l—Hatcher Mt., near Cades Cove, Smoky Mt. Park ..... 4500 ft.
m—Near Lynn Hurst Cemetery, Fountain City ..... 950 ft.
n—Near Hooper's Bald, Graham County, North Carolina ..... 4500 ft.
p—Deal's Gap, Tennessee-North Carolina line ..... 2000 ft.
q—Gate City Fire Tower, Clinch Mt., Virginia ..... 3300 ft.
r—Grassy Ridge Summit, above Carver's Gap, Roan Mt. ..... 6200 ft.

AN ALBINO GRACKLE AND A DISCUSSION OF ALBINISM

By HARRY C. YEATMAN

On May 29, 1957, Mr. James P. Clark phoned me that a young white bird was on the ground near the University Library at Sewanee. On arriving at that building, I found a partially-feathered, bob-tailed albino Common Grackle. The nest from which it had fallen was about 20 feet up on the limb of a white pine and contained four normal-colored grackles that were being fed by a normal parent. White pines are not native to Sewanee, but they are commonly planted and seem to be preferred to other kinds of pines as grackle nesting sites. Forbush has pointed out this preference in his **Birds of Massachusetts and Other New England States.**

This young bird was kept in a potted avocado tree on a screened-in side porch and was fed pieces of angle worms and moistened Gaines dog food. It thrived, quickly growing more feathers and learning to feed itself. Its habits are typical of the species, it bathes daily and moistens dry food, such as bread, in its water pan before eating. For sanitary reasons, it is now housed in a large hardware-cloth cage in our garage and last winter endured subzero temperatures without apparent discomfort. At this writing, it has been in my possession for twenty months and has only rarely given the typical grackle call. Jays and Robins are its nearest bird neighbors and it spends hours imitating the jay call and the "explosive **puck, puck, puck, puck; sheek, sheek**" call of the Robin described by Forbush.

True albinism in vertebrates refers to lack of pigment in feathers, hair, skin, bill, claws, iris of eyes, etc. Only blood pigment, haemoglobin, is present and therefore many structures which contain tiny blood vessels may appear pink as do the eyes of most albinos. The presence of certain reflective bodies (not pigments) in the iris of eyes may make the eyes of an albino appear light blue, but this is rather rare. Technically, there is no such thing as a partial albino. The white plumage of white leghorn and other breeds of chickens is not albinism nor is light gray, light brown, nor white blotched (usually called piebald). They are briefly discussed at the end of this article because they occur in wild bird populations and are confused with albinism.

The cells that make up living organisms contain genes which control the development of the characteristics of an individual. Genes are located in definite positions on tiny elongate structures called chromosomes. Each body cell is believed to contain thousands of genes and these occur in corresponding pairs or groups of pairs (two or more genes for shape of bill, genes for length of feet, etc.) Of each pair, one gene has come from the male parent and one from the female parent.

Color in the skin, iris of the eyes, feathers, claws, and bills is due to the presence of melanin pigments which are produced by the oxidation of one kind of amino acid in the body cells. This oxidation is brought about by an enzyme produced by the gene for normal pigmentation. The albino gene fails to produce this enzyme and hence no pigment is formed.

A cell containing two genes for pigmentation will naturally be pigmented (if there are no other genes such as whiteness to influence the result) and one with both genes for albinism will lack pigment. Each cell of an organism may contain a gene for normal pigmentation and one for albinism, and in this case, the pigmentation gene will produce enough enzyme to cause normal pigmentation. Hence, the normal pigmentation gene is said to be dominant to the albinism gene or albinism is recessive to pigmentation.

The mating of a pure or homozygous pigmented bird (that is, each body cell with both genes for pigmentation) with an albino results in offspring which appear normally pigmented, but will carry a suppressed gene for albinism in each body cell and are therefore called heterozygous. If two of these mate, one-fourth of the offspring will be homozygous for pigmented, two-fourths will be heterozygous and therefore pigmented, and one-fourth will be albinos. Thus, the albino gene, as it is suppressed by the pigmentation gene, may be hidden during several generations and two normal-appearing heterozygous parents may therefore have some albino offspring. Albinism originates in a population of animals by gene mutation

YOUNG ALBINO GRACKLE

ADULT ALBINO GRACKLE

ADULT ALBINO GRACKLE

PIEBALD FEMALE CARDINAL

or sudden changes in the arrangement of the parts of a gene. In this case, a gene for pigmentation is changed enough to prevent its giving off the enzyme which produces melanin. This changed gene may remain hidden for several generations, but when it is paired with another gene for albinism during fertilization, an albino results.

Piebald or large irregular spots or blotches of white is generally the result of action of a dominant gene which allows pigment to form only in certain parts of the body. The corresponding gene for piebald is the recessive gene for normal color pattern, so that any individual with the gene for piebald will appear piebald unless there are, in addition, two genes for albinism in the same body cells. A gene on one locus or position on a chromosome may influence the expression of a gene at another locus. The photograph in this issue shows a piebald female cardinal in my study-skin collection. This bird was collected on December 27, 1940 near Ashwood, Tennessee and was reported by me in THE MIGRANT, 13, 18, 1942.

In some cases, white plumage (not albinism, because the eyes and sometimes other structures are pigmented) is due to a dominant gene and sometimes to a recessive gene, and sometimes to the combind action of several genes. In this multiple gene case, the more genes for lightness of shade, that are present in the cells, the more nearly white will be the plumage. Birds appearing very light brown, light gray, or "dirty" whites are explained by this case. Kortright's **Ducks, Geese, and Swans of North America** shows in plate no. 36, a light brownish Mallard which is incorrectly called a partial albino, and I have observed a light brown Crow.

Department of Biology, The University of the South, Sewanee.

THE SEASON

COOKEVILLE—The weather of the season has been typical of the western Highland Rim—usually cooler than that in Nashville and warmer than that in Crossville. Slightly out of ordinary has been the absence of more than **one** warm day at a time since Feb. 15. This consistently cool weather is keeping the buds in check and perhaps, affecting bird movements to some extent.

The winter census of 1958 was notable in one respect, the addition of three species of ducks. None was reported in December 1957. Strange-to-say, however, no other water birds were sighted then. Since then, a Great Blue Heron has been seen several times about two miles east of town (M.W. and A.D.).

Two of our very consistent observers (C.H. and B.C.) report an apparent shift in the numbers of certain common species. As compared with previous years, at this season, fewer Cardinals, Mockingbirds, and Blue Jays have been seen.

Observers in town, but near wooded lots, have good records on woodpeckers. Four species, including one Pileated, have been seen well-within the city limits (M.M.).

Strictly within the main residential section, one lonely (or depraved?) Crow was observed for some time on March 10 (B.C.).

While an occasional Robin has been seen hereabout, the **first** flock (12) was found at the edge of the Tech Campus on Feb. 22. At the same time and place, the **first** Common Grackles (25-30) of the season were located (PLH). Other early records of small flocks are: ten Bluebirds and thirty

Robins (BC) between Mar. 1 and 10. These were located about five miles northwest of Cookeville.

Probably a late record for the area has been established for the Slate-colored Junco. Two members (CH and BC) have seen small flocks of them since March 1. There is speculation as to whether these are merely passing through on the trip north or local residents preparing to migrate either northward or into the Smokies where their nesting is quite common.

One member of the Upper Cumberland Chapter has been looking for Eagles for some months. It is rumored that nesting has occurred in the cliffs of the escarpment at the western edge of the Cumberland Plateau. Roy Hinds (P. O. Rickman, Tenn.) pushes his boat, from time to time, among the coves and crags around Dale Hollow Lake. Recently he reported that he **believed** he had seen a pair of Bald Eagles. (Bold face mine.)

P. L. HOLLISTER, Biology, Tennessee Tech, Cookeville.

CHATTANOOGA—Little field work has been done this past winter and no effort was made to search for land birds. Duck records continue to be of most interest. Christmas census provided an unusually good one-day total of 11 species.

Common Goldeneyes increased in number and frequency for the second consecutive year. Redheads and Buffleheads were also seen with more frequency.

The Common Mergansers (1 male and 2 females), recorded on February 21, were the first for the area.

No Phoebes were seen by the writer between December 21, 1958 and March 8, 1959.

MRS. E. M. WEST, 2914 Haywood Ave., Chattanooga 5.

KNOXVILLE—Two new species of birds were added to the Knox County list in the fall of 1958. On October 12 a Purple Gallinule was seen by Mary Enloe, and on October 17 a White-rumped Sandpiper was seen by R. B. Hamilton. Two other unusual shorebirds, also seen by R. B. Hamilton, were a Semipalmated Sandpiper on October 26 and a Red-backed Sandpiper seen repeatedly between October 31 and Novembr 9. Despite these records, there were few sandpipers and snipe in the area this year as compared with the unusual numbers of the previous year.

Remaining in this area later than usual were two Black-crowned Night Herons on November 11, reported by Paul Pardue. Similarly, several scattered individuals of Blue-winged Teal were seen up to November 1, and several Green-winged Teal up to November 16, late dates for both these ducks. Other migrants departed on schedule.

A Common Merganser seen on December 28 by Paul Pardue and five Ruddy Ducks on February 21 by Mary Enloe were rather unusual records for Knox County. Except for these, this has been an uneventful winter for ducks and for most other birds. There has been the usual number of most of our winter visitors; none have appeared to be especially abundant or rare.

An unusual record of birds that might have been rare winter residents or very early migrants was of three Lincoln Sparrows seen on March 1 by R. B. Hamilton and K. Dubke. There is only one previous winter record and one spring record of this species in Knox County.

JAMES T. TANNER, Dept. of Zoology, Univ. of Tenn., Knoxville.

GREENEVILLE—The season in this area brought about the usual amount of rain and some snow. Among the late fall observations was a Yellow-billed Cuckoo by Ruth Nevius on Oct. 11—the latest date on record for that species. A Solitary Sandpiper (RN) on the same date was one day later than one reported by E. Darnell in 1957.

According to recent reports the Bluebird population is on the increase again. We had a low of 9 on the spring count and 18 on the 1958 Christmas count. On Nov. 10 a male was observed inspecting nesting boxes in the Darnell's yard. There were no nesting pairs using any of the boxes during the spring and summer as in previous years. Several have remained in the vicinity all winter, but as yet on March 12 no nesting site has been chosen. On March 8 a pair was observed in the Nevius' yard—the first since Feb. 1958. Mr. Roberts reports two pairs around his home in Glenwood community all winter.

A Great Blue Heron was seen on Dec. 11 and 23 (RN) and one was flushed by the Darnells on Feb. 28 as they walked along the river bank.

Birds often employ unusual methods of supplying their needs. During the Jan. 17 snow and ice, Ruth Nevius noticed a Tufted Titmouse and a Mockingbird drinking from melting icicles. She also observed at various times during the winter a Downy Woodpecker, Tufted Titmice and a Winter Wren that found a way to get inside a screened-in porch in search of insects and perhaps insect eggs.

A Brown Thrasher used a cold method to obtain water the last week of November in Darnell's yard. He sat on the ice in the bird bath until he melted a small hole through one-eighth inch thick ice then drank for about ten minutes. This incident took place so early in the morning that binoculars had to be used to identify him. Several mornings he was observed at the same place at the same time, until Dec. 4 when he apparently left for a better climate. Cedar Waxwings were first reported by C. B. Darnell in Feb. and large flocks were reported the first few days of Mar. by Dot Clinard and Ruth Nevius.

An abundance of Rufus-sided Towhees and White-crowned Sparrows were reported by the Clemens and more White-crowned Sparrows than at any previous time, but a definite scarcity of Mockingbirds was evident around their home. More Cardinals than usual were reported by Wilma Irvine and Dot Clinard. Myrtle Warblers were present at the White and the Clinard homes. Purple Finches have been more abundant in some areas covered by our observers this winter. Two male Purple Martins returned to the Blanton home Mar. 11—the earliest date on our records—Mar. 15 being the previous early date. A pair of Red-bellied Woodpeckers have been seen and heard frequently around Helen White's home on Union St. and another pair has taken up residence in a wooded area near Darnell's home.

White-throated Sparrows usually winter in considerable numbers in the vicinity of Takoma Hospital, however, this year they are very scarce. Only one Chipping Sparrow has been reported to date, Mar. 13. (ED).

ELVA DARNELL, Rt. 4, Greeneville.

KINGSPORT—The season just past has been unusual in its contrast of numbers. Of some species we've recorded unusually large numbers, of other species usually seen here, none at all. During the fall of 1958 our record for shorebirds is blank except for a few Spotted Sandpipers during

the first two weeks of September. Also the fall migration of warblers seemed thin although we have one unusually late date, a Black and White Warbler seen by W. E. Gift on Nov. 9 in his back yard at about ten feet. Throughout the winter we did not record any Bluebirds until the second week of Feb. Since then Arthur Smith has regularly observed them. Also scarce were Phoebes, Nuthatches and Sapsuckers.

We have unusual records of Brown Thrashers, one seen by me the first three weeks of December and one seen by Howard Young the first week in January.

The abundant numbers appear on the records under Ducks, Crows, Blue Jays, Starlings and Grackles. During October and November in residential areas of Kingsport Grackles appeared in clouds. Areas of as much as 1,000 square feet of lawn would often be covered with a tightly packed mass of the birds. Estimated flocks of 3-5,000 roosted in a windbreak of white pines in a small ravine on the property of M. J. Adams. Large flocks of Starlings devastated the ground supply of food in other neighborhoods. Farther out in the country flocks of Crows congregated, perhaps as many as 10,000 in one roost.

In contrast to last winter we have had a variety of wintering water birds. Throughout the winter we have seen a colony of Great Blue Herons below Boone Dam and the bridge on the airport road. Usually there have been 8, but March 8 there were 18. In the Christmas count I mentioned frequent records of Red-throated Loons (THE MIGRANT **29**, 69, 1958). We first recorded for this year Horned Grebe on Oct. 30, and Pied-billed Grebe on Nov. 4. Our first record of ducks was Blue-winged Teal on Sept. 18. On Nov. 4 our records show Lesser Scaup, which were not recorded again until Mar. 8. Throughout the winter we have weekly records of Mallards, Black Ducks, Canvasback, and Common Goldeneye, with frequent records of Gadwall, American Widgeon, Redhead, and Hooded Merganser. On Feb. 17 we have a record of five Canada Geese.

ANN H. SWITZER, 1620 Fairidge Dr., Kingsport.

ELIZABETHTON—The fall migration appeared rather light with most of the warbler species being reported but in smaller numbers than usual. The rarer sparrows were not found although searched for in the usual places somewhat more diligently than usual. Several species which are normally observed during the winter were very rarely observed or entirely absent. Among the scarce species were the Phoebe—not observed from late Nov. to 1-31; Golden-crowned Kinglet—Dec. 20 to 1-31; Ruby-crowned Kinglet—Dec. 20 to date; Robin—Dec. 20 to 2-7 becoming common after 2-16; Common Snipe, Redwinged Blackbirds and a Palm Warbler (FW) first appeared 2-14; White-breasted Nuthatch, Red-breasted Nuthatch, Brown Creeper, Hermit Thrush and Purple Finch were not recorded during the winter except a single Brown Creeper on 2-8 (LRH); Common Grackles appeared on 2-5; Cedar Waxwings returned 2-22; Wood Duck—2-28; Gadwall (2) 3-7; Blue-winged Teal (3) and Rusty Blackbird (1) 3-14.

A note in the Elizabethton Star credited Dave Harrell of Burbank with seeing 14 Evening Grosbeaks in Roan Mountain village on Feb. 8. The following Sunday a flock of Pine Siskins were reported feeding on the seeds of the mountain alder and balsam in the Rhododendron Gardens on top of Roan Mountain. These are the only reports of these species for the area this winter.

LEE R. HERNDON, 1533 Burgie Place.

ROBINS USE OF HACKBERRIES

By ALBERT F. GANIER

The use of hackberries (Celtis laevigata) as a winter food by Robins and many other birds is well known. This is particularly true in Middle Tennessee, where this is the most abundant tree. On the higher surrounding Highland Rim (altitude 700-800 ft), the hackberry is scarce or nonexistent and there is a corresponding lesser number of the birds that depend upon it as a source of winter food.

During January 1959, there was a much greater than usual influx of Robins and Starlings into the Nashville area. An immense roost of these birds exists in the western outskirts of the city and they feed in large numbers during the day in hackberry trees and on lawns in the suburbs. Extreme cold and much snow in the North apparently caused their usual northward movement to be halted in Tennessee, where there had been no snow up to and thru January.

Most of the hackberry trees were carrying an abundant crop of their little maroon-colored berries thru the winter. The Robins spent a good part of their time in these trees, swallowing the berries and then dropping to the lawns where they would bask in the sunlight or run aimlessly about while their digestive tracts drew nourishment from their meal.

For those not familiar with these berries, let me say that they consist of a hard, round, yellow pit, about 5/32 inch in diameter, covered by a thin, tough skin which has a sweetish taste and which constitutes the source of food value. Obviously, a vast number of these must pass thru their digestive tracts to sustain the birds, especially in very cold weather.

Wishing to learn more about the physical condition of the birds during a period of bitter cold weather, I procured two specimens at mid-day on January 22 when the thermometer registered 22 above zero and the ground was hard frozen. On dissection, they were found to be plump with even a little fat overlying the belly and their stomach contents consisted entirely of hackberries. The gizzard of one was packed with sixteen berries and that of the other held ten. On some the skin was still intact while on others the wetted skin had already come off preparatory to entering the intestines. This organ, when "unwound," measured about 12 inches in length from gizzard to vent and was completely filled with the pits and the skins with which they had been covered. The pits were spaced about 1/3 of an inch apart so that the tract held about 35 in all. The plumage of the birds was soiled in several places with dried excreta, evidently caused by other birds having occupied a place above them in the communal roost. Study skins were made of the two specimens for further comparison. Three more birds were picked up dead in the roost the following day and all were in good physical condition.

In watching the birds on the lawns, I noted that about twenty percent of them were smaller and had breasts of a paler red color and with more white-tipping on the breast feathers. Of the two specimens I procured I took pains to get one of each kind. The larger of the two had breast plumage of dark rufous-red (chestnut) with practically no white tipping of the breast feathers. The ends of the outer tail feathers were white. The length, wing and tail measurements were 10.00, 5.20 and 3.94 inches. The smaller of the two birds had breast plumage of light brick-red and all of these feathers were broadly tipped with white. The ends of the tail feathers bore no

white spots. The measurements of this bird was 9.78, 4.95 and 3.80 inches. Both birds were males. According to the best authorities, the light colored birds are immatures, that is, birds that were fledged the past summer.

Although the hackberry trees still held a large part of their crop, the ground under them was liberally strewn with berries that had fallen without being eaten as well as the pits that had been excreted. At the roost, the ground under the trees and bushes was coverd with pits dropped during the night. Another bird that relies upon hackberries for a good part of its winter food is the Cardinal. They prefer to hunt for the berries in the grass after they have fallen for when thus found the dampness has softened and swelled the skins so that the birds can remove the edible part with their strong beaks and discard the pits at once. In the Gulf states, Robins are known to eat the large yellow drupes of the chinaberry tree which remain on the tree thru the winter. In this connection, it is of interest to record that one of these trees growing in Nashville (at 2308-21st Ave. S.) is at present loaded with the berries but the Robins have not availed themselves of its fruit. This tree, 15 feet in height, is growing at the northern extremity of its range.

The roost referred to began on Golf Club Lane (at 23rd) in the fall but during January it expanded to a half mile west and there concentrates in a four acre thicket composed mostly of young black locust trees. This is on Woodlawn Drive, where it passes the Richland Golf Club grounds. By the last of January this had grown to be perhaps the largest Robin-Starling roost we have ever had in Nashville. About 1/3 were Robins and a fairly conservative estimate would be between two and three million birds. Viewed after the birds are all in, the trees appear to be in full summer foliage, only that the "foliage" consists of close-packed birds.

I have witnessed many roosts thru the years and have attempted to find the best way to estimate their approximate numbers. The method may be of interest and is as follows. I have learned to know by actual counting what a flock of 1,000 birds looks like. A flock ten times that big of course would contain 10,000 birds and I have a fair mental picture of what that looks like. This is as high a unit as one should attempt to keep in mind. Flocks of lesser size can be estimated to the nearest thousand and huge flocks can be broken up into 10,000 units. If then, the observer stands where he can see all the birds coming in from one-fourth of the entire circle and sees the equivalent of 50 flocks of 10,000 each come in, he has seen around 500,000. If the birds are found to be coming in equally from all four quarters, his total will be around 2,000,000. It is quite possible of course that this figure could be off as much as 25 percent.

In the current roost, first arriving flocks come an hour before the last are in and toward the end they converge in an unbroken stream.

2112 Woodlawn Dr., Nashville 12, Tenn. Jan. 31, 1959.

—o—

ROUND TABLE

PARTIAL ALBINO JUNCO IN THE SMOKIES — On June 1, 1958, we were in the Smokies for the weekend. At the parking area in Newfound Gap, several Juncoes frequented the paved surface, picking up bits of food dropped by the tourists. Among them was a partial albino with

extensive white areas on the body, wings, and tail. I did not make detailed notes on the exact placement of the white areas, but they were sufficient to make the bird very conspicuous both on the ground and in flight.

ADELE H. WEST, 2914 Haywood Ave., Apt. 1-D, Chattanooga, 5.

PURPLE FINCH—PARTIAL ALBINO—From Feb. 26 to Mar. 11, I've had a very striking bird visit my feeder—a partial albino male Purple Finch. I call him "Pinky" because he is pure white washed with a delicate rose-pink, forehead raspberry, wings and tail dark with white wing-coverts and one very white upper tail feather. He is very active and alert and has dark eyes. I hope to get some better colored pictures of him before his departure.

MRS. ROBERT A. MONROE, 1424 Tugaloo Drive, Knoxville 19.

SIX SWALLOWS ON A WIRE—On April 30th, 1958 I visited Bush Lake. I noticed about 75 Swallows perched on a utility wire near the lake office. I checked them for identification and was very much surprised to find all six of our Swallow species on one wire at the same time. There were approximately 13 Tree, 27 Bank, 20 Rough-winged, 4 Barn, 7 Cliff, and 4 Purple Martins. Bank and Tree Swallows are rare at Nashville. About 200 Swallows were feeding over the lake at that time.

A LATE CLIFF SWALLOW AT NASHVILLE—On Sept. 30th, 1958, 25 Cliff Swallows were seen at Bush Lake. On Oct. 6th, only one was there. This bird was quite tame and would allow me to approach to within 8 to 20 feet. I think it was an immature bird as its plumage was very dull. Two primary feathers were missing from its right wing. This didn't seem to bother its flight. I saw it there at least three times a week until Oct. 24th. On Oct. 17th, another Cliff Swallow, in fully mature plumage, joined it for one day only. These dates are of interest as Cliff Swallows are rarely seen here and never after Sept. 15th.

FALL MIGRATION OF SPOTTED SANDPIPERS AT NASHVILLE—My first Spotted Sandpiper of the fall migration was seen at Bush Lake on July 21st, 1958. On at least three trips per week to this area I saw from one to four. The last was a single on Nov. 11th. That makes a migration period of 114 days, long for any bird.

A RARE VISIT OF TERNS AT NASHVILLE—On Sept. 12th, 1958 I found three species of tern at Bush Lake. There were 7 Caspian, 1 Forster's, and 1 Least Tern. All are rare in Nashville. Two of the Caspian were in summer plumage. Five were either moulting, or in immature plumage. All were sunning on bare ground. The Forster's Tern stayed on the opposite side of the lake from the others. Twice, while in the car, it allowed me to examine it from a distance of twenty feet. The markings that Peterson gives to distinguish it from the Common Tern were very apparent.

A TRULY "LESSER" YELLOWLEG—On a late date, Nov. 14th, 1958, I found a Lesser Yellowlegs at Bush Lake. It had one entire leg missing. This slowed down its rate of feeding considerably. It would peck at the mud flat, straighten up, take 3 or 4 seconds to regain its balance, then peck again. I finally flushed the bird. Its power of flight was not impaired.

HENRY E. PARMER, 3800 Richland Ave., Nashville 5.

CASUALTIES AT WJHL-TV TOWER. Following a rather heavy rain storm during the night of Sept. 20-21, 1958 the area in the vicinity of the WJHL Television Tower in Johnson City, Tenn., was visited and eight birds of six species, which had perished during the night, were picked up and identified. Judging by the remains of skeletons and fragmentary remains, several other birds had previously met similar destruction.

Acting upon Mrs. Laskey's suggestion, beginning on September 24 and continuing through October 25, the area was visited daily at about 7:00 a. m. and the birds collected, which had been killed during the preceding night, for identification.

On six mornings, during this period, mostly all following cloudy, windy nights during which there was an appreciable temperature drop, some dead birds were found. The entire list of casualties consisted of 16 species and 27 individuals as follows: 9-21, Yellow-bellied Flycatcher (1), Swainson's Thrush (1), Red-eyed Vireo (3), Yellow Warbler (1), Scarlet Tanager (1), Summer Tanager (1); 9-28, Swainson's Thrush (1), Ovenbird (1); 10-2, Swainson's Thrush (1), Black-throated Green Warbler (1), Blackburnian Warbler (1), Ovenbird (2) and Rose-breasted Grosbeak (1); 10-4, Yellow-breasted Chat (1); 10-10, Catbird (1), Wood Thrush (1); 10-13, Common Yellowthroat (1); 10-18, Black-throated Blue Warbler (1), Bay-breasted Warbler (6).

—THOMAS E. McPHERSON, 118 West Pine St., Johnson City.

LARK SPARROWS ON MEMPHIS GOLF COURSE. — I discovered the joy of observing the arrival of many colorful sparrows in the lush green grass on the knolls and slopes at Forrest Hill while operating a banding station there several seasons ago. I believe this type of birding from early March until mid-May is being overlooked by many birders in favor of woodlands, marshes and fields when observing migrating sparrows. The first Chipping Vesper, White-crowned Sparrows, Indigo Buntings and an occasional individual of another species can be observed in the open sunlight. I always record the last Slate-colored Junco about April 20 in such flocks. There is nothing more colorful than a flock of Indigo Buntings and Goldfinches feeding on the ground in late April. I naturally became aware of the large expanses of green fairways on the many golf courses in Memphis and covered Overton and Riverside Parks daily in addition to my woodland birding this spring. Much to my surprise I found an Eastern Lark Sparrow in breeding plumage at No. 8 green at Riverside on April 13 and two feeding in the middle of No. 9 fairway, near the Art Gallery at Overton Park on April 24. The latter birds would fly up into the trees when disturbed by golfers and the black tail with the white pattern could be clearly seen. The "Quail" head pattern, "stickpin" breast spot, was noted on each of these brightly plumaged birds. This sparrow is a rare summer resident in west Tennessee and it is not often recorded in migration here.—OLIVER F. IRWIN, 1789 Glenview Ave., Memphis, 14.

YELLOW-HEADED BLACKBIRD SEEN AGAIN — As of April 20, 1958, it should now be proper to add this species to the hypothetical list for Tennessee. It was 3:30 p. m. when Miss Carroll Thompson happened to look out a window at her home and saw a male bird moving about in a mock orange bush. She called her father and he also saw it. This species was originally reported by another member of the family in August 1956. (See MIGRANT, **27**, 56, 1956).

ADELE H. WEST, 2914 Haywood Ave., Apt. 1-D, Chattanooga 5.

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The simple truth about birds is interesting enough; it is not necessary to go beyond it.

REELFOOT LAKE CHRISTMAS BIRD COUNT - 1958

(15 mile diameter circle). Lake 20%, Marsh 5%, Deciduous Woods 45%, Field and Farm 18%, Roadside 12%. Dec. 30, 7:00 a.m. to 5:00 p.m.—overcast; temperature 37 to 53° F.; wind N-NE, 5-30 m.p.h.; 8 observers in 4 parties; total party-hours, 40 (25 on foot, 7 by car, 8 by boat); total party-miles, 106 (24 on foot, 60 by car, 22 by boat). Pied-billed Grebe, 2; Great Blue Heron, 27; Canada Goose, 22,300; Mallard, 53,000; Black Duck, 35; Gadwall, 2; American Widgeon, 18; Pintail, 48; Green-winged Teal, 25; Shoveler, 4; Ring-necked Duck, 25,000; Canvasback, 1; Lesser Scaup, 3; Common Goldeneye, 40; Hooded Merganser, 120; Turkey Vulture, 1; Black Vulture, 16; Cooper's Hawk, 1; Red-tailed Hawk, 9; Red-shouldered Hawk, 1; Rough-legged Hawk, 1; Bald Eagle, 20; Marsh Hawk, 3; Sparrow Hawk, 6; American Coot, 23; Killdeer, 7; Common Snipe, 1; Ring-billed Gull, 82; Mourning Dove, 5; Long-eared Owl, 1; Belted Kingfisher, 3; Yellow-shafted Flicker, 2; Pileated Woodpecker, 7; Red-bellied Woodpecker, 36; Red-headed Woodpecker, 1; Hairy Woodpecker, 9; Downy Woodpecker, 10; Phoebe, 1; Blue Jay, 27; Common Crow, 300; Carolina Chickadee, 30; Tufted Titmouse, 31; White-breasted Nuthatch, 8; Winter Wren, 1; Carolina Wren, 19; Mockingbird, 10; Brown Thrasher, 1; Robin, 2; Hermit Thrush, 1; Bluebird, 6; Golden-crowned Kinglet, 1; Ruby-crowned Kinglet, 17; Loggerhead Shrike, 4; Starling, 200,000; House Sparrow, 250; Eastern Meadowlark, 5; Redwinged Blackbird, 5,000,000; Brewer's Blackbird, 8; Common Grackle, 48,000; Cardinal, 89; Purple Finch, 40; Rufus-sided Towhee, 3; Slate-colored Junco, 45; Tree Sparrow, 2; Field Sparrow, 4; White-throated Sparrow, 70; Fox Sparrow, 40; Song Sparrow, 12. Total species—68. Total individuals—5,349,897. Seen in area during count week—Barred Owl and Bufflehead. John R. Conder (compiler), W. Fickle, Hunter M. Hancock, Preston Lane, Gerhardt Megow, Bill Mitchell, Clell T. Peterson, Bill Slade, and L. D. Thompson.

JOHN R. CONDER, Highland Heights, Camden.

Note: This report was received too late to be included in the Dec. 1958 issue of THE MIGRANT. This list added, Rough-legged Hawk, Bald Eagle, Long-eared Owl and Tree Sparrow making a total of 113 species for the 1958 Christmas Count. Ed.

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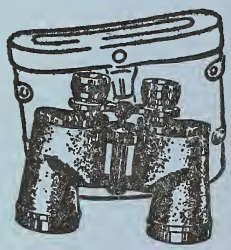

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THE DEGREE AND EFFECT OF SOCIABILITY AMONG BIRDS

By ALBERT F. GANIER

This subject is a relatively unexplored phase of bird study and one upon which very little has been written. It is one that does not readily lend itself to laboratory methods and one upon which conclusions can only be reached after long experience in the field.

The subject divides itself into two categories, each of which is related to the other. First, the degree of sociability among the various species, and second, the effect of this sociability or non-sociability upon the deportment and success of the birds themselves.

For the best examples of socially inclined native birds we will of course look to the gregarious species, such as members of the "blackbird" family, so prone to associate in flocks. We know that Grackles as well as Redwings usually nest together in groups and that nesting over with, they merge in large flocks for the fall and winter and that these flocks gather together at night to form large roosts. During this long off-season association, there are no disrupting factors present, such as territorial defenses and sex attraction and the true personality of the species is brought out. When not engaged in gathering food, we find them resting together in trees and emitting a din of soft calls and miscellaneous "bird-talk." As warm days appear near the verge of spring, the soft calls grow in volume until they become a roar of song. The metallic song of a flock of Grackles in March is one of the finest harbingers of spring.

Likewise, flocking Robins and Starlings stimulate each other to the point where they become exceedingly songful long before time for nesting. Returning flocks of Chimney Swifts and Purple Martins too are happy with their particular vocal expressions, before time for pairing begins.

Having now cited a high degree of sociability among the above mentioned species, let us look to see what its effect has been. The first effect we note is that sociability helps to make what may be termed a successful species. In other words, the stimulus of group association results in early mating, the rearing of vigorous broods and the persistent replacement of nests that for one reason or another have been destroyed. The hustle and bustle of the flock produces a desire on the part of each of its members to "get in the game" and carry out nature's plan of reproduction.

The effect of flock stimulus to nesting activity is wonderfully illustrated in Reelfoot Lake's "Cranetown," where hundreds of herons, Egrets, Cormorants and Anhingas nest in the tops of the big cypress trees which grow in a couple of acres of waist-deep water. As early as mid-March, the Great Blue Herons begin to repair their old nests or to build new ones amid

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a din of croaks and other raucous noises. Shortly thereafter, the other species converge and contribute their voices to the noisy din. The excitement they find in this mixed and vociferous aggregation is a great contrast to the lonely stalking of some minnow or froglet in the nearby swamps and quickly arouses within them the latent instinct of reproduction. From then on, thru April, May and June, "Cranetown" becomes a busy bird city and the annual cycle of reproduction has then been successfully accomplished.

There are many other examples that might be cited of sociable and therefore successful species, such as Goldfinches, Field Sparrows, Towhees, Cardinals, Bluebirds, Bobolinks and other species. In each of these species we find sociability, emanating from winter flocking, to be a prominent characteristic, with the result that they maintain themselves among our most common birds. Among other of our common birds are those which migrate southward and whose winter habits we are not able to observe, but we do know that in their winter territory such species as the swallows, buntings and others associate together during their period of sojourn.

'Tis a poor rule that has no exceptions, so let us look for an explanation of why the unsociable Mockingbird and the Carolina Wren manage to hold their goodly numbers. The Mockingbird is prone to establish and hold his territory throughout the whole year about some farmstead or suburban home. For winter company he recognizes as his good friends the resident human beings, as well as the farmstock, chickens, sundry birds, dogs and even the cat which he no doubt takes pride in being able to evade. He is, therefore, not without social stimulus. When he regains his voice in late winter, he becomes one of those eminently self-satisfied artists of the musical world and happy to begin the raising of new broods of progeny.

The sprightly Carolina Wren, by reason of his happy propensity for singing during every month of the year, thus becomes his own source of sociability and so stimulates himself that he can hardly wait for spring to come before starting the first nest for one of several broods to follow.

It is probably true that there is no such thing as an entirely unsociable bird, for even those which are encountered only in singles or in pairs derive more or less pleasure from the presence of other species. We know that a number of species will gather together in winter to form mixed flocks for protection from predators, for food finding and for sociability. But these flocks move along too rapidly for the Phoebe, the Hermit Thrush, the Winter Wren and others so these slow-pokes become the relatively unsociable species of the winter woods.

Were it not for the high period of spring song that comes in April and May from happy returning migrants and transients, as well as from winter sojourners which by now are ready to tune in on the cycle of spring, no doubt nesting and mating activities would be delayed or perhaps would not develop at all. But calls and song at this season permit every male to announce and advertise himself with such insistence and self-reliance that the presumably more passive females become willing to mate and take on the joys as well as the drudgery of raising a brood or broods. Among many of our small birds, the nearly two weeks of incubation is done entirely by the female. To relieve the monotony of her assignment, the male spends quite a bit of time singing from some nearby tree-top to let her know that he will be on hand when the time comes to feed the nestlings. I know of one case where a female Towhee deserted the eggs upon which she had begun to incubate when her mate was shot by a small boy. I suspect this could be the usual result rather than an exception.

A large percentage of our species may be regarded as rare or very rare, even over their whole breeding range, and these we regard as unsuccessful species. Some of these, like the Ivory-billed Woodpecker, the Swallow-tailed Kite and the Bachman's Warbler are on the verge of extinction. These and many other of our rare birds are prone to keep their own company. The chance for their getting mates at the beginning of the season is less favorable than of sociable, songful or abundant species; nesting gets a late start and if the first nest results in failure, they often do not try again. This is unusually true of hawks, owls and vultures, none of which are sociably inclined.

The woodpecker family is a group which seems never able to become abundant, with the possible exception of the sociable little Downy. Individuals of this group are so absorbed with the task of satisfying their appetite that they have little or no time for sociability. Perhaps woodpeckers were capable of song during some early stage of evolution but have lost it along the way. Only the Flicker expresses himself in song but his vocal efforts, while cheerful, could never win a place in competition.

And what is the effect of non-sociability upon the deportment of the bird? Such species as the Cuckoo, the Phoebe, the Wood Pewee, and the Green Heron, feel no call to keep up with the passing throng. There is no need for them to be vivacious or overly active for theirs is a very small world and they settle themselves down to such a hum-drum existence as to appear to be the mental dunces of the avian world.

For comparison, let us consider that loquacious and sociable fellow, the Common Crow. During most of the year, Crows associate in boisterous flocks. They countenance no laggards and whether they are bedeviling a hapless owl or just playing a game of devil-take-the-hindmost, they keep mentally alert to all about them. Their voices may be heard any day in the year, and they have perhaps the largest "vocabulary" of any native bird. What then is the effect of these expressions of sociability? Simply, that the Crow is generally regarded as the most intelligent and quick-witted of our birds and, despite his large size, he maintains his status of being one of our common, and therefore a successful, species.

In closing, I would like to say that I hope I have awakened the reader's interest by some of the examples I have cited and that he will be on the lookout to develop this subject further as a part of his bird study program.

2112 WOODLAWN DR., NASHVILLE 12, TENN. June 1959.

REQUEST FOR INFORMATION.—As part of a study of the shorebird population on the Florida Gulf coast, a large number of Short-billed Dowitchers, Semipalmated Plovers, Dunlins, and lesser numbers of other waders were trapped, banded and color-dyed in spring, 1959. Birds caught in May were dyed a vivid golden color which is known to have remained unaltered after at least one month on a Dowitcher. Birds trapped in June were dyed scarlet, though dyed birds seen two weeks later were only pinkish in hue. All birds dyed were presumed to be in northward migration. Other colors will be used in the fall, 1959.

It is earnestly requested that anyone observing such colored shorebirds please communicate promptly with the undersigned, stating color, species, and date and location of observation.

HORACE LOFTIN, Dept. of Biological Sciences, Florida State University, Tallahassee, Florida.

THE 1959 SPRING FIELD DAYS

By T. O. S. Members

Six chapters and those present at the State annual Meeting participated in the fourteenth annual Spring Field Days. The Nashville Chapter served as host for the Annual Meeting. This was the fourth highest count of the fourteen and all of the other higher counts had more chapters participating. Also on all of the higher counts the Reelfoot Lake area was covered. Thirteen species were represented by a single individual and twenty-two additional species were reported from only one area. Two species, the Horned Grebe and the Western Meadowlark, appear on the list for the first time. Forty-nine species appear on all seven lists. Of the thirty-six warblers reported only six—Black-and-white Warbler, Ovenbird, Yellowthroat, Yellow-breasted Chat, Hooded Warbler and American Redstart—occurred on all the lists.

Numbers of individuals were reported in all instances except the Nashville list where "C" is used to indicate "common" for several of the more abundant species. Species numbers accompanied by an asterisk (*) are commented upon by the compilers of the appropriate area.

MEMPHIS.—The April outing, at Reelfoot Lake on April 18-19 was too early and the May outing at Shelby Forest Park on May 10 was too late for a big list. Actually any date was not exceptional since the migration was poor and the chapter has discontinued going to a now radically changed Lakeview. The list is predominantly a Shelby Forest list, no individuals elsewhere being included unless the species was not found there, in which case counts elsewhere are shown in parentheses.

BEN B. COFFEY, JR., 672 N. Belvedere, Memphis 7.

NASHVILLE.—The count in the vicinity of Nashville was made over a three day period, May 1, 2 and 3, 1959, by T. O. S. members and guests attending the annual meeting. The weather was fair and the temperature normal for the season.

ALBERT F. GANIER, 2112 Woodlawn Dr., Nashville 12.

CHATTANOOGA.—Spring Census was made in an area just slightly larger than the usual Christmas count area, on April 25, by the following members of the chapter: Leo Acuff, Mr. and Mrs. T. Stanley Barr, Dr. W. K. Butts, Mr. and Mrs. Rock L. Comstock, Miss Gladys Conner, Mrs. Hugh Crownover, Miss Shirley Crownover, Mrs. J. S. Hall, Garry Jones, Mrs. Joe Parker, Mrs. C. F. Prestridge, Mrs. Henry L. Sliger, Miss Ginger Sliger, James W. Shaw, and guest, David Scott.

The following species were recorded for the first time on the local spring census: Bank Swallow, Solitary Vireo, Blue-winged and Orange-crowned Warblers. A buteo that was evidently a piebald Red-tailed Hawk was also observed. Rock L. Comstock was the compiler.

MRS. EUGENE M. WEST, 2914 Haywood Ave., Apt. 1-D, Chattanooga 5, Tenn.

KNOXVILLE.—The Spring Field Day, Harry Ijams Day, was held in Knox County on April 26. The area was enlarged this year to cover the entire county; this was done to include a greater variety of habitats and because so much of the area previously used is occupied by the city of Knoxville. Because of the larger area, and its thorough coverage by a high number of observers, a record number of 151 species was found; last year's count, a previous record, included 139 species.

Conditions of the count: April 26, 1959, 4 a.m. to 8 p.m.; 40 observers in 13 parties; Knox County; partly cloudy to clear, temp. 60 - 80°F., wind 2 - 20 m.p.h.

TABULAR RECORDS OF SPRING FIELD DAYS

SPECIES	Memphis 5-10	Nashville 5-1, 2 & 3	Chattanooga 4-25	Knoxville 4-26	Greeneville 5-2	Kingsport 5-10	Elizabethton 4-25
Common Loon	.....	.....	.....	.....	.....	.....	1
Horned Grebe	.....	.....	.....	1*	.....	.....	.....
Pied-billed Grebe	.....	1	5	7	.....	.....	3
Great Blue Heron	.....	1	.....	2	1	2	1
Green Heron	.....	6	.....	9	6	4	7
Little Blue Heron	(3)	.....	.....	.....	.....	.....	.....
B.-Cr. Night Heron	.....	80	.....	.....	.....	.....	.....
Least Bittern	.....	.....	.....	1*	.....	.....	.....
American Bittern	.....	1	.....	.....	.....	.....	.....
Canada Goose	.....	.....	.....	.....	9	.....	.....
Mallard	.....	2	.....	.....	1	6	7
Gadwall	.....	.....	.....	1	.....	.....	.....
Blue-winged Teal	.....	10	19	46	4	2	7
American Widgeon	.....	.....	.....	.....	1	.....	11
Wood Duck	1	2	.....	12	1	6	13
Ring-nk. Duck	.....	.....	.....	.....	.....	.....	2
Lesser Scaup	1	43	12	420	.....	3	9
Bufflehead	.....	.....	.....	.....	.....	.....	3
Ruddy Duck	.....	1	.....	11	1	.....	.....
Hooded Merganser	.....	.....	.....	.....	.....	.....	6
Turkey Vulture	4	18	1	19	17	22	8
Black Vulture	2	9	.....	5	2	1	1
Mississippi Kite	4	.....	.....	.....	.....	.....	.....
Sharp-sh. Hawk	.....	.....	.....	2	.....	.....	.....
Cooper's Hawk	.....	.....	.....	5	1	1	3
Red-tailed Hawk	(1)	3	2	1	1	1	1
Red-shld. Hawk	.....	1	.....	1	.....	.....	.....
Broad-winged Hawk	1	3	.....	4	.....	1	6
Marsh Hawk	.....	1	.....	.....	.....	.....	.....
Osprey	.....	1	.....	2	1	.....	3
Sparrow Hawk	(1)	5	5	12	2	2	1
Ruffed Grouse	.....	.....	.....	.....	.....	2	1
Bobwhite	12	35	9	57	20	7	15
Sora	.....	.....	.....	5	2	.....	.....
American Coot	.....	16	91	3	2	1	.....
Semip. Plover	.....	2	.....	.....	.....	.....	.....
Killdeer	(1)	26	20	44	14	7	14
Amer. Woodcock	.....	1	.....	.....	.....	.....	.....
Common Snipe	.....	3	.....	22	22	.....	9
Spotted Sandpiper	.....	12	1	25	3	7	10

Solitary Sandpiper	(1)	8	1	51	1	.....	5
Gr. Yellowlegs	.....	.....	.....	3	1	.....	.....
Lesser Yellowlegs	.....	2	30	12	.....	1	.....
Pect. Sandpiper	.....	.....	.....	6	.....	.....	.....
Least Sandpiper	.....	2	1	1	.....	4	.....
Herring Gull	.....	1	.....	1	.....	.....	.....
Ring-bld. Gull	(1)	.....	9	9	.....	1	.....
Common Tern	.....	.....	.....	2*	.....	.....	.....
Forster's Tern	.....	.....	.....	3*	.....	.....	.....
Rock Dove	.....	.....	27	78	45	.....	7
Mourning Dove	7	50	70	340	100	25	39
Yel.-bld. Cuckoo	10	24	.....	3	6	7	.....
Bl.-bld. Cuckoo	.....	6	.....	.....	.....	2	.....
Barn Owl	.....	.....	.....	2*	.....	.....	.....
Screech Owl	.....	.....	.....	1	1	1	1
Gr. Horned Owl	.....	1	.....	3	.....	1	.....
Barred Owl	2	3	.....	1	.....	.....	.....
Chuck-will's-widow	.....	1	5	19	2	2	.....
Whip-poor-will	.....	3	.....	6	8	.....	.....
Nighthawk	(11)	15	2	4	8	6	.....
Chimney Swift	3	87	52	270	117	39	69
R-th. Hummingbird	11	21	1	9	7	5	.....
Belted Kingfisher	.....	9	.....	8	2	5	9
Yel-sh. Flicker	(1)	27	14	58	35	9	38
Pil. Woodpecker	2	5	.....	15	8	4	5
Red-bel. Woodpecker	10	30	6	24	10	4	.....
Red-hd. Woodpecker	(5)	4	7	6	12	2	.....
Hairy Woodpecker	.....	6	1	3	2	1	1
Downy Woodpecker	5	38	6	22	20	3	9
E. Kingbird	(5)	20	6	53	28	12	8
Gr. Cr. Flycatcher	10	24	6	11	26	10	.....
E. Phoebe	.....	12	5	32	23	9	11
Acadian Flycatcher	23	28	.....	2	.....	11	.....
Least Flycatcher	.....	5	.....	.....	.....	.....	2
Wood Pewee	19	19	2	5	17	21	2
Ol.-sd. Flycatcher	.....	.....	.....	.....	.....	1	.....
Horned Lark	(5)	7	4	13	4	6	2
Tree Swallow	(1)	.....	.....	5	.....	.....	2
Bank Swallow	.....	.....	4*	.....	.....	.....	.....
Rough-wng. Swallow	(1)	11	12	70	12	11	12
Barn Swallow	(25)	21	.....	53	32	7	14
Cliff Swallow	.....	1	100	.....	.....	4	2
Purple Martin	(4)	13	43	210	40	14	12
Blue Jay	13	6	84	230	60	53	61
Common Crow	2	18	22	280	40	17	71
Fish Crow	1	.....	.....	.....	.....	.....	.....
Car. Chickadee	16	32	18	135	34	7	22
Tufted Titmouse	35	31	24	120	31	20	57
Wh.-br. Nuthatch	.....	4	6	4	3	.....	.....
Red-br. Nuthatch	.....	.....	.....	1	2	.....	.....
House Wren	.....	1	.....	3	10	12	1
Bewick's Wren	1	22	2	12	8	1	1
Carolina Wren	21	30	19	195	24	25	47

L.-bld. Marsh Wren	.....	.....	.....	1	1	.....	.....
S.-bld. Marsh Wren	.....	.....	.....	1*	1	.....	.....
Mockingbird	1	C	41	500	53	30	59
Catbird	2	29	7	47	50	20	20
Brown Thrasher	11	23	16	65	45	33	61
Robin	4	29	52	270	59	39	88
Wood Thrush	34	28	27	130	36	38	14
Hermit Thrush	.....	.....	.....	1	.....	1	.....
Swainson's Thrush	6	41	.....	3	.....	14	.....
Gray-ch. Thrush	2	9	.....	.....	.....	.....	.....
Veery	.....	3	.....	.....	1	.....	.....
E. Bluebird	(4)	48	10	96	14	5	16
Bl.-gray Gnatcatcher	21	66	11	185	39	14	37
Ruby-cr. Kinglet	.....	3	.....	13	.....	.....	1
Cedar Waxwing	5	89	84	150	67	28	72
Loggerhead Shrike	(11)	7	1	9	2	.....	.....
Starling	2	C	142	610	109	50	431
Wh.-eyed Vireo	25	31	11	72	15	18	22
Yel.-th. Vireo	2	19	8	17	.....	10	8
Solitary Vireo	.....	2	*	1	1	.....	3
Philadelphia Vireo	1	.....	.....	.....	.....	.....	1
Warbling Vireo	1	15	.....	8	.....	7	4
Bl.-and-wh. Warbler	1	17	4	65	14	20	21
Prothonotary Warbler	29	20	.....	3	2	.....	.....
Swainson's Warbler	2	.....	.....	.....	.....	.....	.....
Worm-eating Warbler	.....	4	.....	16	.....	12	4
Golden-winged Warbler	.....	.....	.....	6	.....	.....	.....
Blue-winged Warbler	.....	C	1*	1	.....	.....	.....
Tenn. Warbler	38	74	.....	7	.....	5	.....
Orange-cr. Warbler	.....	.....	1*	.....	.....	.....	.....
Nashv. Warbler	.....	11	1	4	.....	.....	.....
Parula Warbler	18	9	.....	5	.....	10	13
Yellow Warbler	.....	17	12	53	23	14	93
Magnolia Warbler	4	8	.....	5	2	6	.....
Cape May Warbler	.....	15	.....	1	2	1	.....
Bl.-th. Blue Warbler	.....	.....	.....	5	11	.....	1
Myrtle Warbler	.....	36	9	120	12	2	10
Bl.-th. Green Warbler	6	11	.....	16	6	10	2
Cerulean Warbler	18	39	.....	39	.....	24	6
Blackbur. Warbler	1	6	.....	3	1	9	3
Yellow-th. Warbler	1	18	5	8	1	6	.....
Chestnut-sd. Warbler	6	14	.....	5	4	.....	4
Bay-br. Warbler	3	7	.....	.....	1	15	1
Blackpoll Warbler	1	54	.....	4	.....	3	.....
Pine Warbler	.....	.....	2	16	.....	1	1
Prairie Warbler	.....	14	8	88	1	7	8
Palm Warbler	.....	35	8	12	2	.....	1
Ovenbird	3	12	4	33	14	10	24
No. Waterthrush	.....	3	.....	.....	.....	.....	.....
La. Waterthrush	1	31	.....	7	4	11	4
Ky. Warbler	23	46	.....	14	.....	16	1
Conn. Warbler	(1)	.....	.....	.....	.....	.....	.....
Yellowthroat	11	35	11	135	22	18	28

Yl.-br. Chat	14	40	3	26	18	36	1
Hooded Warbler	14	20	1	26	1	12	9
Wilson's Warbler	.....	1	.....	.....	.....	.....	.....
Canada Warbler	1	3	.....	.....	1	2	.....
Amer. Redstart	32	20	1	9	8	7	21
House Sparrow	.....	C	66	110	50	54	157
Bobolink	(19)	2	.....	19	5	.....	.....
E. Meadowlark	2	90	87	240	126	33	65
W. Meadowlark	.....	.....	.....	1*	.....	.....	.....
Redwg. Blackbird	10	93	128	430	42	53	25
Orchard Oriole	1	32	5	48	18	10	7
Balt. Oriole	(10)	9	1	2	.....	3	.....
Rusty Blackbird	.....	.....	.....	.....	4	.....	.....
Common Crackle	2	C	42	300	168	77	254
Br.-hd. Cowbird	75	C	24	160	114	28	36
Scarlet Tanager	(1)	17	1	22	3	18	7
Summer Tanager	26	49	3	32	30	16	.....
Cardinal	36	C	82	400	75	65	123
Rose-br. Grosbeak	4	28	3	5	7	5	5
Blue Grosbeak	.....	.....	.....	.....	.....	2*	.....
Indigo Bunting	46	C	5	56	24	48	3
Painted Bunting	(3)	.....	.....	.....	.....	.....	.....
Dickcissel	1	27	.....	2	.....	.....	.....
Purple Finch	.....	.....	.....	4	.....	.....	26
Amer. Goldfinch	.....	88	42	360	44	30	191
Ruf-sd. Towhee	1	42	41	240	62	34	64
Savannah Sparrow	.....	5	9	5	1	.....	1
Grasshopper Sparrow	(3)	11	.....	26	14	10	8
Vesper Sparrow	.....	1	.....	1	.....	.....	1
Bachman's Sparrow	.....	.....	.....	1	.....	3	.....
Sl.-cl. Junco	.....	.....	.....	2	2	.....	1
Chipping Sparrow	.....	50	18	90	27	8	33
Field Sparrow	(3)	70	18	170	63	20	47
Wh.-cr. Sparrow	.....	.....	1	21	33	.....	13
Wh.-th. Sparrow	.....	43	53	270	23	12	55
Lincoln's Sparrow	.....	3	.....	.....	.....	.....	.....
Swamp Sparrow	1	1	1	11	.....	.....	2
Song Sparrow	.....	.....	12	200	23	28	118
TOTAL SPECIES	97	139	91	151	115	114	111

GRAND TOTAL SPECIES 186

The Horned Grebe, found by J. C. Howell, was twenty days later than any previous spring record here. Rare birds in this area in the spring were the Least Bittern (J. Hill), Common Terns (K. Dubke), Forster's Terns (J. T. Tanner), Barn Owl (K. Dubke), and Short-billed Marsh Wren (R. B. Hamilton).

The Western Meadowlark, a singing bird, was first found on a farm near Concord by K. Dubke and R. B. Hamilton on April 19. It was observed by others since then and three or four people found it on the Field Day. This is the first of this species reported from Knox County.

Several small to medium-sized flocks of Lesser Scaup were found, resulting in an unusually high count for that species. The large numbers reported for Mockingbirds, Cardinals, and other common birds reflect the number of parties in the field on this day. A year ago we found few Bluebirds, Phoebes, and Robins because of the hard winter of 1958-9. This year the Phoebes and Robins appeared to be almost back to normal, but the Bluebirds were still only about two-thirds of their usual relative numbers.

JAMES T. TANNER, University of Tennessee, Knoxville.

GREENEVILLE—The Spring Census covered our usual territory and a short trip toward Bald Mountain. May 2 was clear until late afternoon and the temperature ranged from 60 - 86°F.

Thirteen adults and eight children in 7 parties participated for various lengths of time totaling about 50 hours and 106 miles—16 on foot and 90 by car.

The Canada Geese and Ruddy Duck were observed by Mrs. J. B. White —the duck on Guinn's pond and the geese near by—one goose nesting. The Sora Rails and Greater Yellowlegs were reported by Mr. and Mrs. Richard Nevius.

Members participating were Mr. and Mrs. Willis Clemens, Dr. and Mrs. Turner Clinard, Mrs. Chester Darnell (compiler), Mrs. Wilma Irvine, Mr. and Mrs. Richard Nevius, Dr. and Mrs. Royal Spees and Mrs. J. B. White.

KINGSPORT.—The three night birds were heard by Thomas W. Finucane on Bays Mountain at 3:00 a.m. The Mallards were reported by Helen Harris. We consider the Blue Grosbeaks the most unusual species. They were seen by E. W. Gift. They have been regular visitors to the feeding station of Edward M. McMahan since April 26.

ANN H. SWTIZER, 1620 Fairidge Place, Kingsport.

ELIZABETHTON.—The usual area was covered, except Roan Mountain on the early date of April 25. The weather was fair with the temperature ranging from 44 to 74°F. The number of species listed was about average for the spring count. Because of the early date some species had not departed, which we frequently do not record when the count is conducted on a later date; however, other species had not arrived. No new species was added to our spring count list. Those participating in the count were Mrs. Earl Bashor, Mrs. F. W. Behrend, Mr. and Mrs. J. C. Browning, Ed Davidson, James and Thomas W. Finucane, Lee R. Herndon, Mrs. Ruth D. Hughes, Roby D. May, Jr., and Frank Ward.

T. O. S. ANNUAL MEETING, 1959

The Tennessee Ornithological Society held its annual meeting May 1-3, 1959, at Nashville and vicinity.

Upon arrival on Friday afternoon members were urged to meet at the Children's Museum to register and for a general get-together. Members of the Nashville Chapter acted as guides through the Museum, after which light refreshments were served. Every one was particularly interested in the Bird Room which is beginning to take shape. This room is in memory of Dr. Harry Vaughn, known as the father of the museum and who was a most valued member of the TOS for many years. His wonderful collection of bird's nests will be one of the most interesting exhibits.

Saturday morning at 7:00 o'clock, members met at the Parthenon parking area and there decided between either of two field trips. The trip to Radnor Lake is especially good for warblers and water birds; the other trip to Buena Vista Marsh and Bushes' Lake is usually the best place for shore birds. This latter trip also included a visit to the Black-crowned Night Heron rookery.

At around 11:30 a.m. both groups met at The Two Jays Sanctuary where they ate lunch and had the afternoon to ramble over the trails and study the flowers as well as the birds in the 63 acres of woodland on the banks of the South Harpeth River.

The Board of Directors Meeting was held at the cabin of Two Jays, beginning at 1:30 p.m. There the business of the society was transacted.

The Auditing Committee found the Treasurer's report in fine shape and a detailed accounting was made by the treasurer, Mr. Finucane.

The Nominating Committee with Mrs. Monroe as chairman presented the following slate of officers which were accepted unanimously:

President	Mr. Paul S. Pardue
Vice-President for East Tennessee	Mr. David Highbaugh
Vice-President for Middle Tennessee	Mr. Ralph Dunckel
Vice-President for West Tennessee	Miss Mary Davant
Secretary	Mrs. H. C. Garlinghouse
Treasurer	Mr. Thomas W. Finucane
Curator	Mr. A. F. Ganier
Editor	Dr. Lee R. Herndon
Director-at-large, East Tennessee	Mrs. E. M. West
Director-at-large, Middle Tennessee	Mr. John Ogden
Director-at-large, West Tennessee	Mr. L. D. Thompson

There was an interesting discussion of the deadly effects of broadcasting insecticides on mammals and birds. It was decided that after Dr. Peters' talk on the subject that a proper resolution be made stating the feeling of the society on the subject.

Mr. Ganier offered to assume the responsibility of revising the Distributional List of Birds of Tennessee making it conform to the A. O. U. check list and possibly leaving out subspecies entirely.

Appreciation was expressed to Mr. Ruhr for the great success of the News Letter. It was decided that the new president carry it on with the help of Mr. Ruhr in getting it printed and submitted to the editor for inclusion with each issue of the MIGRANT.

Mr. Pardue brought up the subject of the National Audubon Societies Model Bird Law which would place all birds on the protected list with the exception of the House Sparrow, Starling and Crow. Mr. Ganier thought the most pressing need, just now, is to have the Turkey Vulture put on the protected list. Mr. Ruhr thought that we could do the most good by having a committee of TOS members meeting and consulting with the Game and Fish Commission since state control is vested in that body. A motion was passed to this effect.

Mr. Ganier read a letter from the Wilson Club stating their desire to have their 1960 meeting in Gatlinburg. The Knoxville Chapter had already accepted the responsibility to act as host with the Smoky Mountain National Park. The meeting is to be held the first week in May and it was decided that the TOS have its business meeting at this time also.

Mr. Finucane was complimented for his work as coordinator of the hawk count and he was asked to carry on for another year.

Mrs. Coffey suggested that a roster of membership be prepared by the secretary. Mr. Hightaugh also brought up the advisability of having addressograph plates prepared. Mr. Shreiber moved that both of these matters be left up to the discretion of the president and secretary.

Saturday evening dinner was served at the Highland Crest Restaurant after which Dr. Harold Peters gave a most enlightening talk on the Hazards of Broadcasting Toxic Insecticides. He brought out the danger not only to birds and small mammals but also to human beings. He suggested that we as a society take a definite stand and do all in our power to halt the unnecessary use of the pesticides which are being manufactured with more and more potency.

Sunday morning field trips were taken to Radnor Lake and vicinity. The trip to the marshes was discouraged because of the poor results of the previous day in that area. We met for dinner at Rand Hall at Vanderbilt, after which there was a short business meeting where matters brought up in the Directors Meeting were presented and accepted by the society.

The Resolutions Committee presented the following suggestions:

1. Expression of thanks to the Nashville Chapter as host for the 1959 meeting.
2. A vote of appreciation to the officers of the society.
3. Appreciation to Mr. Ruhr for his excellent guidance and execution of the "News Letter."
4. That the TOS go on record as definitely opposed to the broadcast pest control methods.

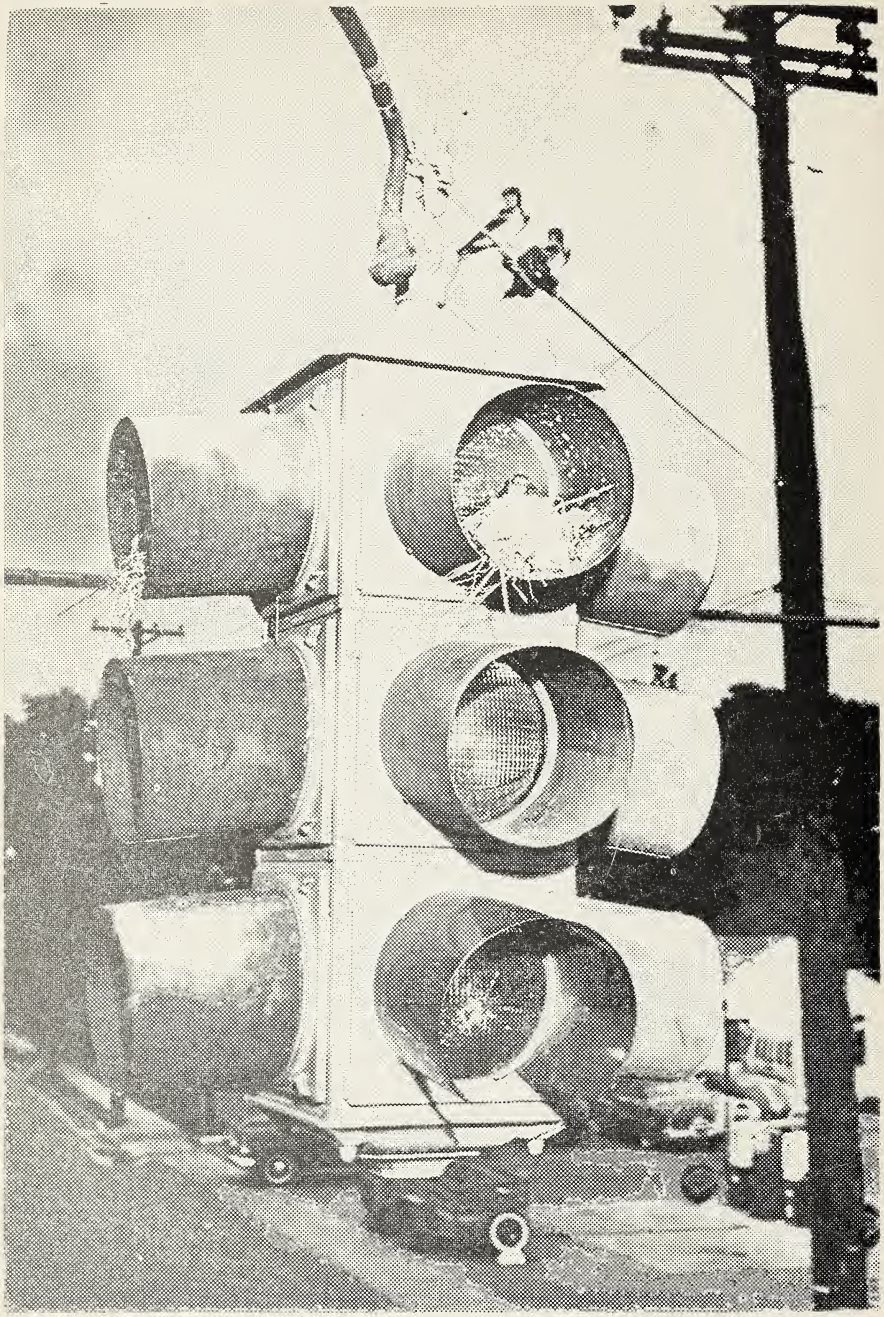
The composite list of birds found during the two day period was 139, which was the largest count ever recorded for this area.

RUTH CASTLES, Secretary, 7-B Forrest Hills Apt., Hillsboro Rd., Nashville 12.

A TWICE-USED CROW'S NEST.—I have examined many nests of the Common Crow, but not until this year have I ever found them to use an old nest. This is probably because of the fact that the birds use a thick lining of soft materials which hold dampness and cause decay of the interior, thus providing an unsanitary foundation for a new nest and a harboring place for insects. In the erly spring of 1958, a pair of crows took up quarters on the 25-acre grounds of Belle Meade mansion in the western suburbs of Nashville. They built a nest high up in one of a clump of cedar trees and in due time fledged their young. During incubation and while the young were in the nest, the parent birds were vociferous in their protests when I was in the vicinity, as I often was while adding young trees to the Belle Meade arboretum. This year, the birds made no audible protests, so I think that the raucous member of the pair must have been succeeded by another individual of different temperament. In fact, I did not know that the nest had again been put into use in 1959, until on May 17, when the Nashville T. O. S. chapter was looking over the grounds, we espied two or more young sitting on the edge of the nest and nearly ready to make their first flight.

The area around and for a mile westward has now been built up with new homes, and this remnant of tree-filled lawn must seem like an oasis to the crows.

ALBERT F. GANIER, Nashville 12.



LIGHT HOUSEKEEPING.—A pair of Purple Martins keep a close watch on their family. This is one of two families living in a street signal at Navy Road and Church in Millington. Light, Gas and Water Division crews have cleaned out many lights where they found nests before permanent residency was established.

C. E. WILMETH, President, Memphis Chapter, 606 So. Graham St., Memphis 11.

COMMON GRACKLES. WHITE FEATHERS IN PLUMAGE.—A total of ten thousand Common Grackles (*Quiscalus quiscula*) have been closely examined by me over a period of ten years. Five thousand of these were banded and five thousand others were found dead at winter roosts. White feathers occurred in the plumage of thirty-five of these birds, most often on the head. Eighteen birds were so marked. The most striking bird being a large green-headed male in the spring of 1959. This bird had extensive white over the entire hood in large patches that involved the nape, chin, throat, auriculars and cheeks. Two birds in 1954 had white patches about the face and chin. The balance of the eighteen had profusely scattered small "dots" over the head due to the small feathers in this area. Two interesting birds had circles of bright "dots" surrounding the eyes. Care was taken to see that birds had not come in contact with foreign matter that would have caused the discoloration of the feathers. Only three birds had white feathers in the wings; two with outer primaries white and one with white wing patches. White tail feathers were noted in four of these birds, two with outer tail feathers on one side and one with both outer tail feathers white. A very unusually marked Common Grackle had all the tail feathers white at the base and presented a large noticeable "V" upon taking flight. A bird banded last week had a wide gray-white band across the center of the tail, but this was a young bird not fully plumaged. A white feather was noted in the under tail coverts of one bird. The body feathers, including the back, of these birds, being very small, an occasional white feather could have been overlooked.

An albino Common Grackle spent the month of January 1956 on the President's Island roost that numbered into the hundred thousands. Several times, light colored Parakeets, that followed the birds to roost, have been observed. A Red-crowned Parrot was recaptured at this roost, having escaped several miles away. These could be mistaken for "Blackbirds" on a large roost if not examined closely.

Starlings (*Sturnus vulgaris*) examined totaled four thousand. Two thousand seven hundred banded and the balance found dead at winter roosts over a period of ten years. This species has much less occurrence of white feathers in the plumage. Five birds were thus marked. One had a white feather in the under tail coverts. In 1957 one bird had a fully white tail, one had a white tail feather in the center, on the nape and bend of the wing (epaulette), one had a white tail feather in the center only. A Starling was examined on April 5, 1959, that had died on the roost at Elmwood. This bird had white wings and a white tail. In the fall of 1956 a Common Grackle was banded that had white toe nails on the center toe of each foot. A Blue Jay with a white toe nail was banded at this season. No white feathers were noted in the plumage of the following birds banded by me: Blue Jays, 425; Brown Thrashers, 350; Robins, 150 (plus 500 found dead at winter roosts); Cardinals, 525; Slate-colored Juncos, 125; White-throated Sparrows and the balance of eleven thousand birds of various species banded by me. However, I often join the Ben B. Coffeys, Jr., in Chimney Swift banding operations and have noted at least two birds with white primaries. I believe white primaries occur in swifts with the same frequency as in the Common Grackle but can only speculate on this. Several Common Grackles have been banded that had light blue irises but no bird examined had pink irises.

See THE MIGRANT 30, 5, 1959, "An Albino Grackle and a Discussion of Albinism" by Harry C. Yeatman.

OLIVER F. IRVINE, 1789 Glenview Ave., Memphis 14.

A WESTERN MEADOWLARK IN KNOX COUNTY, TENNESSEE.—While looking for Bobolinks and Dickcissels in the southwest corner of Knox County, Bob Hamilton heard what he thought to be a Western Meadowlark. After he and Kenneth Dubke followed the bird some distance, they were able to observe it singing atop a fence post. They watched it some time and were able to make a positive identification.

In order that more people would be able to observe and therefore clinch the identification, the Knoxville Chapter's Rare Bird Alert was brought into action.

The bird was first observed on Sunday, April 19th, by Mr. Hamilton. On the following Thursday, April 23, I went to the designated field and spent some time listening but could hear nothing that resembled the Western Meadowlark's song. Returning to the field that afternoon about 4:00, I again listened in vain. I then walked eastward along the railroad rightof-way to a point where I would be able to see the farmland on the opposite side near Fort Loudon Lake. After a few minutes I began to hear a single call note that sounded like the whistle of a Quail. At first there was almost a minute lapse between notes but after each call the time between was shorter until it ended this and began singing a beautiful warbling song, not unlike that of a Baltimore Oriole. After repeating the song several times it became quiet for about twenty minutes. Again it began in the same way as before with the whistled call notes set at shorter and shorter intervals until there was hardly more than two seconds between them and then it started singing the warbling song. The song was bold and clear and carried quite a distance. I walked over to the bird, about a quarter of a mile away, and was able to watch him from about fifty feet through 7 x 35 binoculars while he repeated the whole song beginning as before with the call notes.

On the day of our annual Spring census, April 26, the Western Meadowlark was observed by Dr. Joseph Howell, Berney and Audrey Kaiman, Mr. and Mrs. Carl Frister (visiting the Kaimans from Wisconsin), Kenneth Dubke and Ralph Bullard. Mr. Frister is Past President of the Wisconsin Ornithological Society.

There were no observations made the following week due to the members being in Nashville for the State TOS Meeting. During the successive weeks Bob Hamilton made several trips to try to determine if the bird was nesting. During the entire period of observation, no Eastern Meadowlark was heard singing in or near the field in which the Western Meadowlark had taken up residence.

On May 23, both male and female Meadowlark were observed closely. The male was identified as the Western and the female Eastern by Mr. Hamilton. He is sure he saw a difference in the flight of the two birds, the male having a more fluttering wingbeat. He was able to notice the difference in the male's coloration also. The yellow much deeper with a more narrow crescent at the throat and the crown stripes streaked with greyish brown.

Bob has compiled some interesting notes on the actions of these birds. He heard the male sing sixty times between 8:30 and 9:00 a.m. on one occasion. He has records showing the number of 'chuck' calls the male made during several hours of observation.

According to our observations, this is the first 'probable nesting' record East of Memphis for this species. At the time I received this information from Mr. Hamilton, June 14, no actual nest had been found.

PAUL S. PARDUE, 6020 Fountain Drive, Knoxville 18, Tenn.

A WHIP-POOR-WILL FORAY.—Late in the afternoon of April 24, 1959, Ed Davidson, Ray Garrison, Roby May, Frank Ward and the writer left Elizabethton in time to arrive at South Holston Lake just before dark. Our destination was the south shore of the lake near the dam. We approached this area by driving along the road on the north side of the Holston Mountain in a northeasterly direction. Some rain had fallen in the area during the early afternoon and some scattered clouds hung over us during the evening. The full moon was due to rise shortly after dark but being on the north side of the mountain it was not until sometime later that we were able to see it. Just a little after dusk at 8:10 p.m. the first Whip-poor-will began to sing. Then we decided it was time to start our return trip and to stop and listen, at least every half mile or more frequently if the terrain warranted it.

At each stop a few minutes were spent listening and recording the singing Whip-poor-wills within hearing. At most stops from one to five birds could be heard. For one stretch of about three miles no birds could be heard. During this period the moon was obliterated by a cloud for a short while. At one location, after the Whip-poor-wills began to sing again, two Barred Owl were heard singing in the general direction of Holston High Knob and at another stop a Screech Owl was heard singing in the distance but in the direction of lower altitude. On at least two occasions the Whip-poor-wills were so close to the road that we could hear the "chuck" preceding each song distinctly. Only one bird was actually seen. Its glistening red eyes were distinctly seen reflecting the light of the car from the edge of the road. We stopped about twenty feet from the bird, from which vantage point, the form of the bird could be distinctly discerned. After observing it as long as we desired, some members of our party got out of the car and started in the direction of the bird. It did not allow close approach but took off directly away from us then circled back and in our direction and vanished into the night.

Over the distance of sixteen miles, all of which was wooded on both sides of the road and along which there were no residences or man-made structures, we logged 56 Whip-poor-wills. The elevation of our course ranged from approximately 1700′, or the level of South Holston Lake, to 2400′ where we crossed the Holston Mountain to the south side.

I should like to propose that a similar census be taken by each Chapter of our TOS during the spring of 1960. I would suggest that the president appoint a coordinator, similar to what has been done for our fall hawk migrations, who would be responsible for setting the date or period during which the count is to be made, receiving, editing and preparing the manuscript for publication. Individuals as well as groups all over the state could participate in such a venture. Perhaps Chuck-will's-widow could be included or even our owl records could be boosted appreciably by recording them. Write your president and give him your views on the proposal. Perhaps your suggestions would be welcome material for the NEWSLETTER.

LEE R. HERNDON, 1533 Burgie Place, Elizabethton.

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THE PRESIDENT'S MESSAGE

My association with the Tennessee Ornithological Society has been one of the most gratifying experiences of my life. It is with humbleness and sincerity that I come to you to express my thanks for your confidence in me, by electing me your President for the coming year. I want to assure you I will do my best to carry out the program that was set forth forty-four years ago, when our founders saw the need for such a society and joined hands to create the TOS.

We are fortunate in TOS that our predecessors saw fit to set down rules and regulations to govern our actions in a manner that through the years only a minimum of changes have been necessary to fit them to our changing world. Our primary goal, established long ago, that of promoting bird study in Tennessee, is still eminent. It would be well to remember that another part of our original charter is "to act whenever necessary for the protection of the birds themselves," now that the indiscriminate use of toxic pesticides is presenting a hazard to our bird populations as well as all wildlife.

It will not be easy to take over the reins of TOS after having such superb leadership as we have experienced the past two years. I would like to take this opportunity to pay tribute to Gene Ruhr and thank him for giving his time and talents that our organization might profit.

As to the task ahead, I feel I have your entire cooperation. Also I am indebted to you for supplying me with a most able and efficient staff of officers. I am looking forward to meeting TOS members I do not know and will enjoy hearing from each of you individually. Sincerely,

PAUL S. PARDUE, Fountain Drive, Fountain City, Tenn.

Members of T. O. S. extend their deepest sympathy to Dr. and Mrs. Lee R. Herndon in the loss of their son, Bill, who passed away on July 21.

E. E. Davidson, Pres.
Elizabethton Chapter
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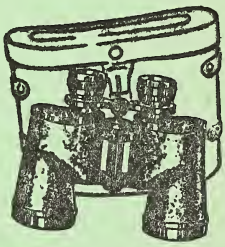

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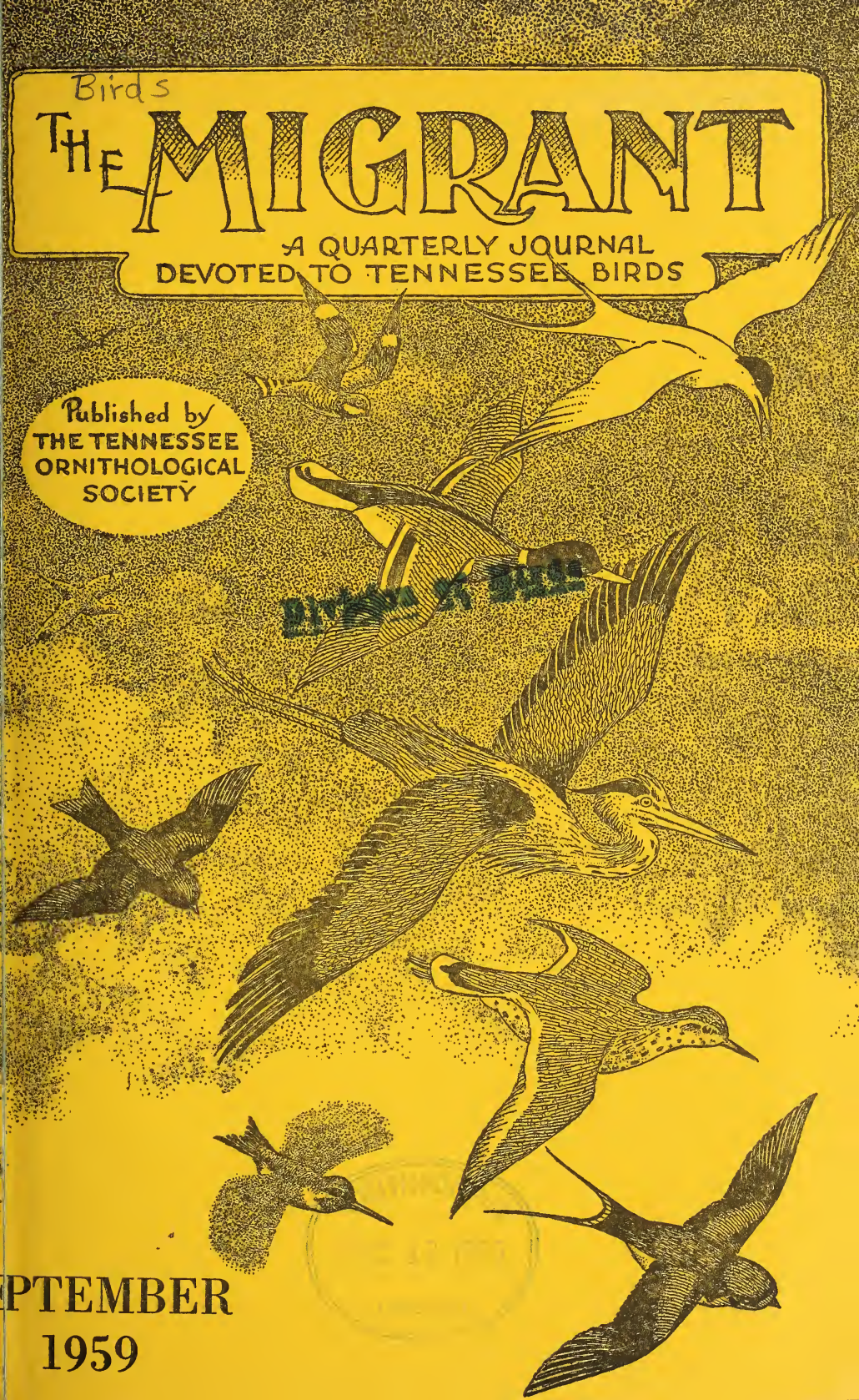

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VOL. 30 SEPTEMBER 1959 No. 3

OBSERVATIONS AT BUSH LAKE

This is a continuation of observations at Bush Lake near Nashville as reported in THE MIGRANT **29**, 52-54, 1958. The period covered was from May 14, 1958 to May 13, 1959.

The lake was visited from 3 to 6 times each week. Records were kept for 111 trips. On some trips little or nothing was seen and no records were kept. A total of 76 species was observed during the year.

All observations were made through 7 x 35 binoculars and usually between 8 and 9 a.m. Birds observed are listed in A.O.U. check-list order.

Common Loon: May 14 (1), Nov. 21, (24) and Mar. 18 (1), Apr. 10 (13). At about 2:30 p.m. on the latter date I saw 2 of these fly in about ten minutes apart. Horned Grebe: Feb. 9 (1), Feb. 13 (2) and Mar. 18 (1); Pied-billed Grebe: Aug. 14 (1), then seen in every month until Nov. 19. Apr. 27 (2) were the only spring records. Green Heron: July 21 (1); Black-crowned Night Heron: Apr. 21 and 25 (1); Canada Goose: Oct. 6 (11 and 60), Feb. 10 (2); Mallard: Oct. 9 (1) then 3 to 7 per trip until Jan. 15 (1); American Widgeon: Mar. 18 (6) then a few each trip until Apr. 20 (20); Green-winged Teal: Oct. 3 (3) and Dec. 5 (1); Blue-winged Teal: Aug. 22 (3), Sept. 22 (46), Oct. 23 (1), Mar. 27 (1) then a few until May 2 (10). Shoveler: Mar. 27 (2), Apr. 13 (5), Apr. 20 (3); Ring-necked Duck: Oct. 29 (3), Feb. 9 (5), Feb. 24 (135), Mar. 16 (269), Mar. 23 (50); Canvasback: Dec. 8 (4), Dec. 28 (47). They spent more time on the river than they did on the lake. A ragged female was the last to leave on Feb. 13 after spending 10 days on the lake alone. Lesser Scaup: May 28 (1), Oct. 29 (3). A few were on the lake during the winter. The peak was Mar. 23 (70), then the flock dwindled to May 13 (12). I saw the flock many times on the river with the sun at my back. I looked carefully for a greenish cast on the heads of the males but they were all purple. Bufflehead: Nov. 19 (1), Jan. 16 (5); Oldsquaw: This rare duck was a brightly marked female on Apr. 10, just one in the center of a large raft of ducks. This seems very late for a duck that is rarely seen here, and only in the coldest weather in previous winters. Ruddy Duck: Nov. 3 (6), Mar. 25 (6), Apr. 12 (29); Hooded Merganser: Dec. 4 (1) and remained several days. Common Merganser: Nov. 2 (3); Red-breasted Merganser: Nov. 2 (1); Red-tailed Hawk: Seen occasionally during the winter (1); Red-shouldered Hawk: Dec. 16 (1) and a pair during the mating season in late Feb. Marsh Hawk: one or two pairs all years. On Mar. 18, the writer saw a male feeding on a male House Sparrow. Again on May 12 a male was feeding on what appeared to be another House Sparrow. American Coot: Oct. 3 (2), Oct. 23 (13) and a few every month until May 3 (3); Semipalmated Plover: Apr. 30 (2), May 1 (2); Killdeer: From one to 12 most trips, except during

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their nesting season. The largest flock was Sept. 12 (39); Common Snipe: Oct. 15 (1), Nov. 16 (1); Spotted Sandpiper: May 15 (3), July 21 (1), Aug. 11 (4) and 1 or 2 each trip in Oct. and Nov. 7 (1), Apr. 20 (10) then 1 to 7 until May 13. Lesser yellowlegs: Oct. 23 (1), Nov. 14 (1); Least Sandpiper: Nov. 26 (1), May 1 (2); Herring Gull: Oct. 27 (1), 1 or more during Nov., Dec. 3 (12), Dec. 16 (30). One to 6 in Jan. and Feb. Mar. 3 (3), May 7 (2); Ring-billed Gull: Nov. 3 (1), then the number built up slowly to Dec. 6 (285), Jan. 4 (1), Feb. 10 (26), May 7 (7); Bonaparte's Gull: Oct. 27 (1), Mar. 25 (1), Apr. 10 (1); Forsters Tern: Sept. 12 (1) (THE MIGRANT **30,** 14, 1959). Least Tern: Sept. 12 (1); Caspian Tern: Sept. 12 (7) (THE MIGRANT **30,** 14, 1959). Black Tern: May 15 (13), July 21 (1); Mourning Dove: Sept. 12 (250), only a few the rest of the year. Barn Owl: Oct. 23 (1) (Dead—shot by a hunter the evening before). Chimney Swift: Apr. 4 (5); Belted Kingfisher: Two on the lake all year except during their nesting period. Red bellied Woodpecker: One a few times during the winter, always in the trees along the river bank. Eastern Kingbird: Apr. 30 (3), one to 3 each trip until mid May. Horned Lark: Nov. 18 (1), Dec. 16 (10), then 1 or 2 most trips until May 13. Tree Swallow: Sept. 27 (4), Mar. 27 (2), then just a few until Apr. 14. Bank Swallow: Oct. 3 (8), Apr. 3 (1); Rough-winged Swallow: Sept. 23 (3), Mar. 20 (1). About 3 pairs nested along the river. Barn Swallow: Sept. 27 (20), Oct. 3 (6), Mar. 27 (1). Several pairs nested in the big barn. Cliff Swallow: Sept. 27 (25), Oct. 6 (1). This bird stayed until Oct. 24. (THE MIGRANT **30,** 14, 1959). Purple Martin: Mar. 20 (7), then 5 to 7 regularly until May 2 (1). On May 18 about a dozen came to nest in a box put up there in March. Blue Jay: Apr. 20 (1); Common Crow: From 20 in the winter to a pair in May. Tufted Titmouse: Dec. 16 (2); Mockingbird: One or 2 several times during the winter. Brown Thrasher: One occasionally during the fall and spring along the river bank. Robin: Seen very few times. Water Pipit: Nov. 16 (3), Dec. 11 (4). Two of these were in a small elm tree at the edge of the lake. Dec. 16 (17) was the largest flock of the winter and also the last seen. Loggerhead Shrike: One stayed along the river bank during the winter. Starling: From 3,000 in Dec. to 2 or 3 pairs in May. Prothonotary Warbler: Apr. 20 (1); Myrtle Warbler: Oct. 3 (4), one to 4 a good many times during the winter. House Sparrow: Always around 40 near the barn. Eastern Meadowlark: Sept. 27 (34). From 4 to 12 during the rest of the year. Redwinged Blackbird: Several hundred were there during the summer. They did considerable damage to table corn. They peel back the ends of the shucks hunting for worms. This makes it unfit for sale. Three automatic carbide cannons were installed during the growing season. They gave a very loud pop every few minutes. This kept the birds in the air a good bit of the time. Some Starlings and Cowbirds also fed on the corn worms. The first seen this spring were on Mar. 18 (5). One or 2 were seen on each trip until mid May. Common Grackle: From 1 to 12 during most of the year. Two or 3 pairs nested along the river. Brown-headed Cowbird: Seen only a few times during the year. Cardinal: One or 2 pairs along the river bank all year. Savannah Sparrow: Oct. 3 (1), Nov. 15 (7), then none until Apr. 10 (2). Vesper Sparrow: Oct. 29 (2), Nov. 5 (6), Mar. 24 (2); Chipping Sparrow: Seen only twice during the year. Field Sparrow: Seen only once or twice. Song Sparrow: Oct. 2 (2) were the only ones for the year. Lack of suitable cover in the fields during the winter kept the sparrow count down.

HENRY E. PARMER, 3800 Richland Ave., Nashville 5.

SOME NOTEWORTHY NASHVILLE RECORDS

STILT SANDPIPER (*Micropalama himantopus*). On the morning of July 24, 1959 I found a flock of early shorebirds at Bush Lake. In the flock was a Stilt Sandpiper. This is our second Nashville record. (THE MIGRANT **29,** 51, 1958). After three nights of rain the fields were muddy. In the middle of a bare four acre plot were the following: Stilt Sandpiper, 1; Pectoral Sandpiper, 6; Killdeer, 22; Least Sandpiper, 20; Semipalmated Sandpiper, 10; Semipalmated Plover, 2 and Upland Plover, 2.

BUFF-BREASTED SANDPIPER (*Tryngites subruficollis*). Early in the morning of Sept. 16, 1959 the writer found two Buff-breasted Sandpipers at Bush Lake. In the early morning sun the heads, necks and breasts seemed to be the color of an old khaki shirt. They were feeding with several Killdeers. The Sandpipers walked towards my car as they fed, and were within 20 feet when I left. Even then they did not flush. This is our first Nashville record and the sixth for the state. THE MIGRANT **15,** 76, 1944; **23,** 47, 1952; **24,** 39, 1953; **25,** 52, 1954; **26,** 11, 1955.

SANDERLING (*Crocethia alba*). On the morning of Sept. 16, 1959 the writer found a strange white shaded bird at Bush Lake. It was feeding in about 1 inch of water along the shore line. It stayed through Sept. 19. During that time Mrs. Amelia Laskey, Mrs. Sue Bell, Mr. Albert Ganier and Mr. Alan Munro helped to identify it as a Sanderling in winter plumage. The plumage looked very much as that of the Black-bellied Plover in Peterson's Guide. However, it was a much smaller bird. Several times it was seen within a foot of a Spotted Sandpiper. This gave a good comparison as to size. Once it was found in the middle of a plowed field with Killdeers, a very strange place for a Sanderling. This is the first Nashville record and the fourth state record. (THE MIGRANT **26,** 43, 1955). It was very tame and would allow us within 20 feet of it.

AMERICAN AVOCET (*Recurvirostra americana*). On the morning of Sept. 29, 1959 at Bush Lake the writer was very much surprised to see across the lake a large whitish bird resting on the water. At first he thought it an early gull. By using 7 x 35 binoculars he saw the long thin upturned bill and the black folded wings with a wide white stripe. He then knew it to be an unusual bird for Tennessee, an Avocet. It was not floating on the water as first thought but wading in water nearly to its belly. It was in fall plumage with the head, neck and breast white. There appeared to be a very light patch of color on the back of the head, either light gray or tan. At 10:30 a.m. Mrs. Amelia Laskey saw it and at 3:00 p.m. John Ogden found it in the same place. During the night it left. A cold front came through with a northerly wind. This is the first Nashville record and the sixth for the state. THE MIGRANT **19,** 73, 1948; **21,** 6, 1953; **26,** 11 and 50, 1955. Audubon Field Notes **8,** 24, 1953.

BLACK-BELLIED PLOVER (*Squatarola squatarola*). On Sept. 2, 1959 the writer found a Black-bellied Plover at Bush Lake. This is the second Nashville record. The bird was a beautiful specimen in full spring plumage. It was feeding in an almost bare field with Killdeers. It was found again on Sept. 4, this time in a field of short turnip greens. It appeared to stand twice as high as the nearby Killdeers.

HENRY E. PARMER, 3800 Richland Ave., Nashville 5.

THE SEASON

MEMPHIS.—Spring migration was, on the whole, late and poor, and possibly a record as such, among those seasons worked here more than the average, since 1928. The writer visited Overton Park, before work, five mornings a week; visits to open country on week-ends were often far afield, so that local data in that habitat was sketchy. The Swainson's Thrush, normally common, was more common than usual and the Orange-crowned Warbler, normally uncommon, could have been termed fairly common. Not a Worm-eating Warbler was recorded. Regular dusk-time visits gave, for the park only, good results for the Whip-poor-will, poor for the Chuck-will's-widow. Open country species were apparently below average, especially swallows, Bobolink, and Orchard Oriole. A late male Bobolink was seen May 24 along the Mississippi River levee, on the Tennessee-Kentucky line. A few Golden-winged Warblers were noted in the park as usual, plus, in Hardeman County, May 2, one near Lake LaJoie, and two in the Highway 100 black alder swamp at Chickasaw Forest. A Woodcock flushed at this spot, may have been a summer resident and a transient Connecticut Warbler was there at the same time. Another Connecticut was listed May 10, on the Benjestown Road, Memphis field day.

The few trips made for Golden Plover did not locate many. From none to 20 at the Penal Farm; largest flock below the state line, 95 along the levee, Tunica County; while across the river a total of 306 at 16 spots on a Turrell-Earle-Crawfordsville circuit. Small numbers of other shorebirds included our first spring record of the Red-backed Sandpiper in areas worked by Memphis members; I saw one, May 16, at the Tupelo Fish Hatchery.

May 24, where Reelfoot Creek crosses Tenn. Hwy. 22 a Mississippi Kite was seen. This is about the same spot where Dr. and Mrs. H. H. Axtell of Buffalo, N. Y. saw one July 18, 1957 (Aud. Fld. Notes 1958:38). Later, at the levee and the Hickman ferry, two Fish Crows were seen and heard. These are apparently the first Kentucky record for the latter. Later that day I tried to find this species in Kentucky Bend, as I had done also in April and at both sites and in between last year, all without success. The Red-headed Woodpecker was common along the levee at the Kentucky-Tennessee line as it also was along the Arkansas levee across from Memphis. The Orchard Oriole continued uncommon in the near Memphis area but normal in Obion County and Itawamba County.

Some Blue Grosbeak records: near Rara Avis, Dorsey, and Pine Mountain, Miss., and north of Shiloh N. M. P., Tenn., all in general area of Warriner's records of some years ago in these pages (1945:24-26). In Obion County, May 24, three spots east of Hornbeak. On July 12, four records northwest of Gadsden (all in Crockett County) and one at Gibson Wells. We have missed, in recent years, seeing one at the highway 18 overpass, Grand Junction, but one towards LaGrange, June 28, shows that the species is still along Tenn. Hwy. 57. Lark Sparrows: two singles near Rara Avis, Miss., May 17, and one NW of Gadsden, Crockett County, July 12. One at Shelby County Penal Farm, Aug. 8, was at the identical spot as the only other Farm record, April 17, 1953.

BEN B. COFFEY, JR., 672 North Belvedere, Memphis 7.

NASHVILLE.—Late spring and summer in the Nashville area have been delightful, except for about three weeks in August when the weather was hot and humid. There have been good intermittent rains with no pe-

riods of real drought. This condition possibly contributes to the fact that several observers have seen fewer birds generally than in normal summers when there has been more heat and less rain, making daily sprinkling necessary and causing a more general movement of the birds looking for water.

It is interesting to note that the shore birds seen around Nashville for several years in March and April were absent from the usual places (which were as wet as ever). Only a few scattered shore birds were reported until May 8 when Louis Farrell, Jr. found eleven species on the River Road. This is late for a concentration in this area.

Some last spring dates were: May 26, Spotted Sandpipers (2) and Lesser Scaup (8); June 2, Black Tern (1) (HEP); June 16 and 17 Woodcock (1) (JO); June 23, Osprey (1) (HEP) (very late).

It was established that the Cerulean and Worm-eating Warblers nested at Two Jays Sanctuary, when John Ogden saw adults of both species feeding young on June 16 and 17. Harry Monk reports 3 nests of the Mourning Dove active on Sept. 13: One built Aug. 27 and 29, one established Sept. 7 and one found with brooding birds Sept. 11. A clutch of 8 Bobwhite eggs began hatching Sept. 18 and finished Sept. 19 (ARL). (2 eggs were damaged and did not hatch).

The first fall shore bird, a Spotted Sandpiper was seen at Bush Lake July 23 (HEP). He found six species of waders at the same location July 27, including Stilt Sandpiper*. Aug. 15, Blue-winged Teal (1) (HEP) at Bush Lake, earlier than usual. Sept. 2, and 4 Black-bellied Plover* (1) (HEP). Sept. 16, White-rumped Sandpiper (1); Pectoral Sandpiper (1); Sanderling* (1); Semipalmated Plover (2) and Buff-breasted Sandpiper*.

Some of our first fall records of song birds follow: Aug. 30, Magnolia Warbler, (1) (HCM); Sept. 3, Canada Warbler, (1); Blackburnian Warbler, (2); Tennessee Warbler, (2) (JO); Sept. 11, Pied-billed Grebe, (1); Golden-winged Warbler, (1) (the latter a tower casualty), (ARL). Sept. 12, Philadelphia Vireo, (1); Bay-breasted Warbler (1); Wilson's Warbler, (1); Worm-eating Warbler, (1); Nashville Warbler, (1); Ovenbird, (4); Myrtle Warbler, (1) (early); Black-throated Green Warbler, (1) and Rose-breasted Grosbeak, (2). (TOS trip to Radnor Lake). Sept. 13, Veery, (1) dead at WSIX tower (ARL); Sept. 16, White-throated Sparrow, (1) (earliest known Nashville record) (ARL); Sept. 19, White-crowned Sparrow, (2) (FL, Jr.).

SUE M. BELL, 210 Carden Ave., Nashville 5.

* See Page 35 for further details.

COOKEVILLE.—Reports from other parts of the state, some visited recently, indicate a "damp August"—plenty of moisture and mildew, if not actual heavy rains. Ours was a **wet** August, almost three inches above the average for the month. Aside from the high humidity on numerous days, there has been nothing distinctive about the season here.

Whether the weather or some other factor (Training of the young, as believed by some), or other factors, are responsible, the summer residents have been far from numerous. About the first of September, the situation has changed. One club member (CH) reports a number of migrants at the edge of town. The same member and the writer have seen small flocks of Robins recently. The smaller ones were on Sept. 1, and about 50 were seen on Sept. 13. The latter were mostly juveniles.

P. L. HOLLISTER, Biology Department, Tenn. Tech., Cookeville.

GREENEVILLE.—For the last few years Richard and Ruth Nevius have been keeping notes on their observations of Sora Rails, Short-billed Marsh Wrens and Blue Grosbeaks in Greene county during the summer months. One Sora Rail was seen the last week of July. Two Marsh Wrens were seen about the same time in the area.

Due to the long dry spell no migrating shore birds were observed in the section in which they usually stop.

Several reports of successful Bluebird nestings have been reported this summer, and increasing numbers of these beautiful, friendly birds.

Blue Grosbeaks are not so rare as they were, or at least they were thought to be. Maybe we just hadn't found them, or maybe they are extending their territory—Six singing birds along a 10 mile drive were reported, not all in one day. Young birds not long out of the nest were observed by the Neviuses last summer, but none were seen this year, though singing males have been heard.

A pair of nesting Prothonotary Warblers was observed in May by several of the Greeneville club members—a 'first-time' occasion for our chapter. According to the W. S. Neill family, the warblers have been nesting near their home in the Warrensburg Community, a few miles from Greeneville, and near the Nolichucky River, for several years.

MRS. CHESTER B. DARNELL, Route 4, Greeneville.

KINGSPORT.—The past spring and summer have brought a very satisfactory number of birds without many unusual records. During the spring migration the absence of shorebirds continued. Tom Finucane noticed fewer Redstarts and Black-poll Warblers than usual. Among summer residents there was a shortage of migrant herons and Grasshopper Sparrows. Also the Bluebird population here seems not yet to have recovered from the 1958 loss. Purple Martins and House Wrens appear to be increasing over their low numbers of last year.

Perhaps the local Ruffed Grouse population is growing: Tom Finucane reports hearing them more frequently on Bays Mountain. The extremely large flocks of Grackles widely commented on last winter continued throughout the summer.

Our records show only a few unusual dates. The Blue Grosbeaks noticed around May first at the E. M. McMahons' feeder for the past two years appeared April 26. On July 21, I saw a Canada Warbler in a purple-leafed plum tree in clear view of our windows. This is almost a month earlier than we expect to see Canada Warblers. On August 24, Arthur Smith reported a Wilson's Warbler; our only previous fall record was Sept. 21, 1952. (On Sept. 4, Elizabeth Smith and I saw a Semi-palmated Plover at the Old Fish Hatchery. Our only other fall record is Sept. 21, 1952). Again this year my family and I saw Common Terns on Boone Lake near Rockingham Dock Sept. 11. This same day we recorded the first Blue-winged Teal of the fall, a flight of over fifty, and first Broad-winged Hawk. On Sept. 13, my son and I saw a Peregrine Falcon pursuing a flock of Starlings; we were able to watch it across the sky for several miles. On that same day we saw a Great-crested Flycatcher, a late record. From the first reports of club members hawks are migrating in very large numbers earlier than usual.

ANN H. SWITZER, 1678 Fairidge Place, Kingsport.

ROUND TABLE NOTES

SPARROW HAWKS NESTING — Newly fledged Sparrow Hawks (*Falco sparverius*) were being fed by parent birds in the tall oaks of the open woodland that is Glenview Park, Memphis, on June 12, 1959. On this date the parent birds were courting and I was surprised to find that they had chosen a conspicuous site on the edge of a heavily traveled drive used by picnickers. Two dirt, paddle tennis courts had been used heavily all summer at the base of the tree. This did not seem to bother them in spite of the fact that the nesting cavity was only 15 feet up on the dead trunk facing the road.

Again, three small birds were in the nest on July 26. On Aug. 10, they were sitting in the opening waiting to be fed, occasionally exercising their wings. However, the parent birds were noisily attacking nesting songbirds nearby and a resident there occasionally found feathers. Upon examination, by me, these appeared to be feathers of Red-headed Woodpeckers, House Sparrows, Chimney Swifts and Robins. However, young squabs and Starlings that had tumbled from the nests were possibly eaten also. Since this was the height of the moulting season, feathers were easily found. It was after much effort that I succeeded in persuading the nearby resident that this species of hawk offsets any harm it might do, by eating many large insects and mice, thus maintaining the balance of nature through its raids on populous species. A plan to have the local zoo collect the young birds was averted after I explained this species was protected by law.

Another crisis developed when the children heard about the nest. Young boys wanted to capture the birds to train them for use in falconry, but when the first bird left the nest on Aug. 14 the parents set up a fierce battle, leading the bird down the paved road into a privet hedge and coaxed it onto an overhanging limb. This was repeated until the last bird left on Aug. 17. A photog ph was taken of this family in the nest.

OLIVER S. IRWIN, 1789 Glenview Ave., Memphis 14.

BROWN THRASHER NESTING—Last summer Brown Thrashers twice saved themselves the trouble of nest building by using a second-hand Mockingbird nest that had survived the wind and rain of winter about seven feet from the ground in a cherry laurel protected by the low eaves of our house. I first noticed the occupation on April 8 when I was entertaining with a coffee. Throughout the morning a thrasher sat in the nest glaring balefully from a large yellow eye at all the guests as they came and went on the walk from our front door close enough to the nest to reach out and touch it. During the afternoon two Thrashers carried a few twigs to refurbish the nest. Occasionally on the next day a twig or a bit of paper was added to the structure. On April 10 the female started laying. From four eggs only two young birds appeared both by April 21. I didn't see the nestlings leave the nest, but they were being fed by the parent birds under the shrubbery in front of our house on May 2. On the afternoon of May 3 I heard both young birds, which could not fly, in the semi-circular area about three feet deep in front of a basement window. My daughter restored them to the protection and freedom of the shrubbery after we had watched for an hour during which no parent bird came to feed them. Later in the afternoon we saw one parent feeding them. After that we didn't see either parents or young for more than a week.

Observations in Bent, **Life Histories of North American Nuthatches, Wrens, Thrashers, and Their Allies,** indicate that usually a female Thrasher starts building a second nest a few days after the first brood leaves the nest. I don't know if that were true of this female. However, by June 1, there were once more eggs in the old Mockingbird nest, five this time. These eggs raised two questions: (1) whether the female was the same which occupied the nest in April, and, if so, (2) was this her second or third brood? Banding would have provided an answer, at least to the first question. On June 12 one egg had hatched. Once again only two nestlings resulted from the incubation. One of these was much larger and more active than the other. The vigorous one left the nest at 11:30 A.M. on June 23. That day it seemed to get most of the attention of both parents. By late evening the weaker nestling was on the ground. For the next two weeks we saw the birds only now and then. Each parent seemed to be followed in his search for food always by the same fledgling. Sometimes we'd see one parent on the front lawn accompanied by his chirping charge at the same time the other parent with his was in the back or side yard. As late as July 26 one of the parents was still being trailed by a begging dependent, by this time adult size with a tail almost adult length.

ANN H. SWITZER, 1620 Fairidge Place, Kingsport.

TRAILL'S FLYCATCHER.—The Traill's Flycatcher (*Empidonax traillii*) returned to the site of the 1958 nesting records (THE MIGRANT, **29,** 37-42, 1958), at the County Farm near Elizabethton. The first bird noted singing was on May 9, 1959. The following day at least two were singing in the area.

A systematic search was made for nests on June 21, the approximate date on which they were first found last year. One nest was found containing three eggs, in an American elm, about five feet above ground level and directly over a small stream.

A second nest was located, also in an elm bush, about 5 feet above ground but it contained no eggs. On June 27 it contained 3 eggs and on June 28, 4 eggs. On July 5 the eggs were gone but the nest was intact.

Also on July 5 the first nest found contained 3 newly hatched young. An additional nest was found lying on the ground where it had been dislodged from an alder bush. Still another nest was found containing four young, almost ready to leave the nest. This nest was about 8 feet above ground in a clump of willows.

The birds in the first nest were observed several times and they were almost ready to leave the nest when last observed on the afternoon of July 19. Assuming that these and the other four were safely fledged, at least seven birds were produced in this area this year.

LEE R. HERNDON, 1533 Burgie Place, Elizabethton.

FOOD PREFERENCE OF BIRDS

Needless to say the feeding station used in conjunction with my banding operations is well patronized. As it is only ten feet from our living room window, the behavior of birds can be followed very closely. A 4-year study of their eating preferences is summarized below. The following are my recipes used:

Cheesecake: 4 parts corn meal, 1 part flour, 2 parts melted suet, 2 parts sugar. Cook corn meal in melted suet for 5 minutes over low fire, stirring constantly. Add flour and sugar and mix well for a few minutes. Pour in molds. It hardens.

Suet-Corn: Pour melted suet over fine cracked corn, stirring until all is thoroughly wet. Use plenty of suet, otherwise it gets too crumbly. When cooled, press into food sticks.

Peanut Butter Cake: Stir corn meal into peanut butter until mixture is quite dry yet will hold its shape when squeezed into a ball. Then ram the mixture in a tin can. Lay can on its side on the tray and birds will eat out of it. Should nail it down, probably, so it will not roll off or be carried away by prowling animals.

Location of Food: G-On ground; T-On feeding tray; S-In holes on a stick or pole.

	Cheesecake	Nutmeats	Raisins	Fine cracked corn	Coarse cracked corn	Millet	Hemp	Melted Suet Corn	Peanut Butter Cake	Sunflower Seeds
Bobwhite				G	G	G	G			
Hairy Woodpecker	T							S		
Downy Woodpecker	T							S		
Y.-bel. Sapsucker								S		
Pil. Woodpecker								S		
R.-bel. Woodpecker	T				G			S		
Blue Jay		G			G		G			
Purple Finch				T,G		T,G	T,G			T,G
Harris Sparrow				G	G					
W-crowned Sparrow				G		G				
W-throated Sparrow				G		G				
Tree Sparrow				G	G					
Chipping Sparrow				T,G		T,G				
Field Sparrow	T			T,G		T,G			T	
Slate-color. Junco	T,G			T,G		T,G			T	
Song Sparrow				G		G				
Lincoln's Sparrow				G		G				
Fox Sparrow				G		G				
Ruf.-sd. Towhee				G	G	G	G			G
Cardinal	T	T			T,G	T,G	T,G		T	T,G
R-breasted Grosbeak							T,G			T,G
Indigo Bunting						T,G				
Y.-breasted Chat	T								T	
Catbird	T								T	
Brown Thrasher		G	G	G		G	G			
Carolina Wren	T	T						S	T	
Winter Wren		T							T	
W.-breas. Nuthatch	T							S	T	T
Tufted Titmouse	T	T						S	T	T
Carolina Chickadee	T	T						S	T	T
Wood Thrush			T,G							
Hermit Thrush		G	T,G							

—RALPH L. DUNCKEL, 523 North Washington Ave., Cookeville

PARULA WARBLERS NESTING IN A REGION DEVOID OF MOSS.—As the Parula Warbler (*Parula americana*) shows a decided nesting preference for regions abounding in Usnea or Spanish moss, it was interesting to find it fairly common in a high altitude area where there is no moss of any kind.

High Hampton Inn is located in the mountains of North Carolina at 3500 feet elevation two miles from the Post Office of Cashiers and twelve miles from Highlands (4100 feet). My husband and I have been there many times in late September, and twice in May, but this year were there from June 15 to 22, and assume that birds found there at this season are nesting in the area. They conform closely to those recorded at similar elevations by Henry M. Stevenson and Arthur Stupka in their article: "The Altitudinal Limits of Certain Birds in the Southeastern States" (MIGRANT, **19**, 33, 1948) and by James T. Tanner in: "The Altitudinal Distribution of Birds in a Part of the Great Smoky Mountains" (MIGRANT, **26**, 37, 1955). No Veerys, Red-breasted Nuthatches, Juncos or Winter Wrens were found at this lower limit of their breeding range, although Canada Warblers and Rose-breasted Grosbeaks were singing and one pair of Blackburnian Warblers was seen.

In the immediate area which surrounds a lake perhaps a half mile in length, the terrain is mountainous and—except for the golf course—is densely wooded. There are many very tall pines, including solid stands of white pine, and deciduous hardwoods including oak, hickory, ash, maple and tulip poplar. The undergrowth of rhododendron, azalea, and mountain laurel is particularly dense all around the lake, and along the many small watercourses. The lake is somewhat marshy at the upper end where it is fed by a small stream. Hemlocks are abundant, and buckberry bushes make the hillsides almost impenetrable. Here, the Parula Warblers sing continuously. Nowhere in the area is there moss of any size, nor are there any climbing vines. Stevenson reported Parulas nesting near Highlands in 1941, but made no mention of nest location. I quote two other authorities on this subject. Thomas Burleigh (GEORGIA BIRDS) says that "in the mountains where there is no Spanish moss, breeding pairs have been seen in well-covered ravines where hemlock (*Tsuga canadensis*) grows along streams. It is at the end of the upper branches of this tree that the nest is built" of light green moss-like lichen. Ludlow Griscom and Alexander Sprunt, Jr., (THE WARBLERS OF NORTH AMERICA) say that "the nest is found in the northern range in festoons of Usnea, in the south in clusters of Tillandsia moss . . . and elsewhere in coniferous trees such as hemlock, and occasionally in mixed hardwood without lichen."

In the immediate area around High Hampton Inn and lake I found eleven species of warblers in this order of abundance: Oven-bird, Hooded Warbler, Chestnut-sided Warbler, abundant. Black-throated Blue Warbler, Black-and-white Warbler, common; Parula Warbler, Yellow Warbler, fairly common; Louisiana Waterthrush, Canada Warbler, uncommon; Blackburnian Warbler, Kentucky Warbler, rare. In nearby more open habitats there are, in addition, Chats and Yellowthroats. Notably absent were Redstarts, which in our May visits, gave the impression of defending territory.

In every instance where a parent bird of any species was seen carrying food, it was to young birds already out of the nest. So next spring I hope to go to High Hampton somewhat earlier to locate the nest of the "Blue Yellow-backed Warbler" in this region.

MURIEL B. MONROE, 1424 Tugaloo Dr., S.W., Knoxville 19.

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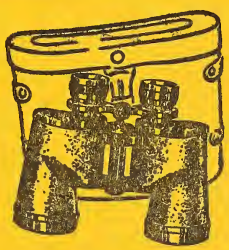

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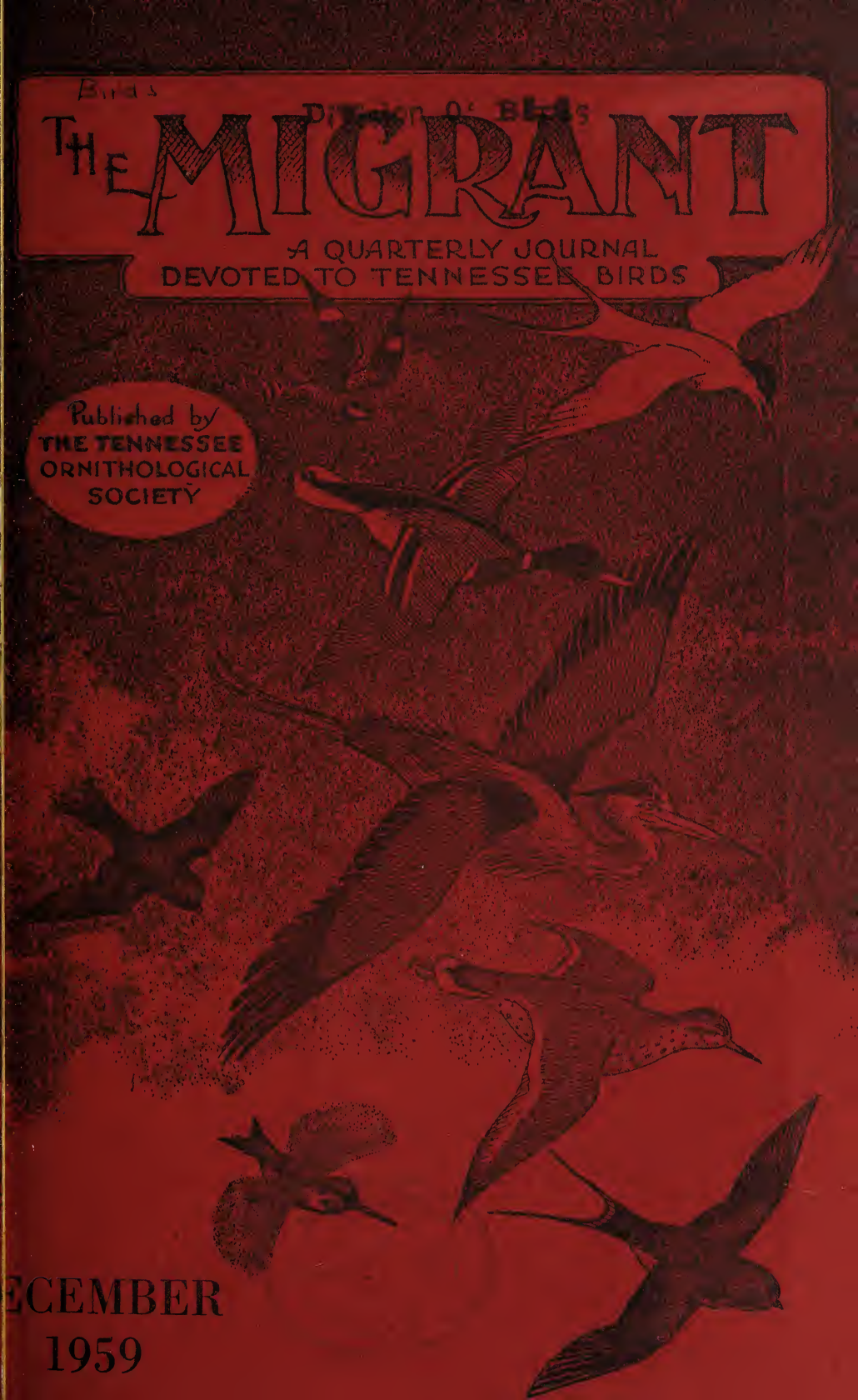

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THE MIGRANT

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CHUCK-WILL'S-WIDOW NESTINGS

DESOTO COUNTY, MISSISSIPPI. — Near our home, which is about five miles southeast of Walls, Miss., and about five miles south of the Tennessee line, I have located two nestings of the Chuck-will's-widow. At the request of Ben Coffey I am submitting information from records kept at the time. On April 27, 1946, I found a "nest" with one egg; the second egg was laid that day. On May 17 one egg had hatched when I visited the spot. The second had hatched when I returned May 18, — it may have hatched on the 17th, after my visit. I could not find the birds at the nest site on May 19.

At 1 p. m., May 8, 1959, I found two eggs which had been laid on dead leaves on a slight slope in woods. There was no nest whatsoever, not even a depression. Neither egg had hatched by 10 a. m., May 27, but by the morning of May 28, both had hatched. The two babies were covered with tan or light brown down, hardly dry. On May 29 I found the female and the two little ones had moved to a spot about 7 feet away from the original site. The young could run well and held their little wings up as if they wanted to fly. By the next day the adult had moved them across a six-inch log to a spot 3 feet away. On May 31 the birds were found about 8 feet from the last place. When the female flew off, she flitted along about a foot above the ground, stopping here and there in an apparent effort to lead a person away from the young. On June 1 they were 7 feet from the last site while on June 3 I searched quite a while before locating the birds about 20 feet from the spot of the previous day. They had moved under a barbed wire fence to the edge of the woods. On June 4 they were 15 feet south of the previous position.

The next day I visited the site at 11 a. m. and again at 4 p. m. to see if they remained in the same spot all day and found them unchanged at the second visit. If they do remain thus during the day, normally, they apparently move about at dusk or during the night. On the morning visit I noticed that the little birds had their heads stuck out from under the mother's feathers. On June 6 she flew off the spot where she was resting and I decided to move the young a few feet out into the sun so that I could photograph them. They began to run about so fast that I abandoned the idea. When I tried to pick up one of the little birds it would spread out its wings, rear back, and open its large mouth. On June 8 I killed a 3-foot blue racer only four feet from the young. They were feathering out rapidly by then and really spread their wings when approached.

SMITHSONIAN INSTITUTION MAR 9

It rained June 9 but on June 10 I returned and found the parent sitting on only one bird. I'm afraid that something caught the other. It rained a great deal on June 11 and I looked all over the woods without finding them. I found them, June 12, and again, after much searching, on the thirteenth. The remaining juvenal could then fly about 50 feet. It also ran along the ground with wings extended, and gave a series of alarm notes. Its wing spread was now fairly large. I saw no point in further observation and did not return after this date.

Based on the 1946 observations, incubation period was about 21 days. For this summer's nest, the period was at least 19 days and possibly 20 or more. Mr. Coffey advises that Alexander Sprunt, Jr., writing in A. C. Bent's Life Histories (U. S. Natl. Mus. Bull. 176, 1940), does not give the incubation period but, in South Carolina Bird Life (1949) he quotes the late J. S. Y. Hoyt, "about twenty days." In Bent, observations on young are given up to thirteen days after hatching, by Herbert L. Stoddard. During the time I was observing the young, I saw only the female, which experience agrees with that of other observers. However, the male could be, and probably is, active at night.

LAWRENCE P. WILSON, Rt. 1, Box 93, Walls, Miss.

ROUND TABLE NOTES

BRANT IN CHATTANOOGA. — On October 20, 1959, Jack W. Thompson, Gene West and I were leaving Fehn's Restaurant when I saw two gooselike birds a few yards away on the lawn. I supposed they would be Canada Geese and immediately turned and started walking toward them but at an angle that would take me past rather than in a direct line, my objective being to see how close I could get without causing them to flush. As I approached, moving very slowly, I became aware that no white patch could be seen on the face.

Finally, they became disturbed and started walking away, taking flight in a leisurely, unhurried fashion. The small size was noticeable. The white barred neck patch could not be seen at all. The top surface of the lower rump and tail showed as a large whitish patch in flight. Even in the poor light conditions at 6:00 p. m. and lacking binoculars, it was obvious that the two birds were not Canada Geese, but because of their otherwise superficial resemblance, it seems just as obvious that they were Brant *(Branta bernicla)*.

Fehn's Restaurant is a new structure located on several acres of open lawn with only a half dozen trees, at the edge of the Tennessee river about two blocks upstream of the Market street bridge in downtown Chattanooga. Two sides of the property are bordered by weedy fields. The fourth side faces a heavily traveled street with a buffer zone of weeds, shrubs, and trees.

Considering its downtown location, the area is actually quite thickly populated with birds, particularly during the breeding season, including at least two coveys of Bobwhite, the Cliff Swallow colony under the bridge, Yellow-breasted Chat, Yellow Warblers, and numerous species associated with residential areas.

A search of THE MIGRANT reveals only one previous record — that of 19 Brant seen by Thomas B. Dickerson at Kentucky Lake (THE MIGRANT **26**, 9, 1955) .

MRS. E. M. WEST, 2914 Haywood Ave., Apt. 1-D, Chattanooga, Tenn.

NORTHERN PHALAROPES AT NASHVILLE. — On Wednesday, October 21, while home for lunch, I received a telephone call from Mr. H. E. Parmer about several new species of birds that had arrived at Bush Lake. That morning he had found several Blue Geese, Spotted and Semipalmated Sandpipers and a Lesser Yellowlegs.

I decided to go out to the lake that afternoon after my classes were finished to see the geese and look for any other shore birds that might have come into the fields around that area. It was 3:30 p. m. before I arrived at the lake and I started to walk around it. The geese were feeding in fairly short grass near the edge of the lake. After watching them for a while, I started around toward the western side of the lake when I saw two birds on the water close to the far (west) shore. The light was bad, as I was looking into the setting sun, but I could see that they were predominately white and much too small to be gulls or ducks. I retreated from the shore, making a wide circle around the lake, to approach from the western side with the light behind me. Going the last thirty yards, almost on my hands and knees, I was able to reach the lake's edge before the birds could see me. They were only about forty feet from the edge and did not fly when they saw me, but started swimming away. I immediately recognized them as a species of phalarope other than the Wilson's. They were small, delicate appearing birds, constantly spinning in the water and bobbing their heads. Several times they made short flights, never going over a few yards before re-alighting in the water. The phalaropes quickly lost their fear of me as they never went more than one hundred and fifty feet away and twice they swam to within fifty feet of me. I had the use of both 7 x 35 binoculars and a water bird field guide to aid me in my identification. The distinguishing marking of the Northern Phalarope, *(Lobipes lobatus)* which I was able to see on these birds, were the thin black bill, dark wings with distinctive white wing strip, marked back, black eye patch, and a white forehead with the top of the head and back of neck dark gray.

After watching the birds for about thirty minutes and making quite sure that they were Northern Phalaropes I left. They were not found the next morning or any time since then.

This appears to be the first record of this species for Tennessee, as there are no records in THE MIGRANT.

JOHN OGDEN, 515 Fairfax Avenue, Nashville 12, Tennessee.

PHALAROPE (Spec?) NEAR CHATTANOOGA. — On November 1, 1959 a phalarope was seen at Long Savannah mud flats. At first sight the bird resembled a Sanderling, but soon it went into shallow water nearby and its behavior immediately identified it as a phalarope. After considerable study and reference to "Peterson," I concluded it was a Northern.

However, after returning home and looking at the illustrations in several other books, it seemed possible the bird was a Red. Mr. West felt that it was a Red, and I had to agree that he could be correct even though I still favored the choice of a Northern. I know it had a dark area through the top of the head, but I did not pay sufficient attention to the bill.

Two days later he returned to the site with camera and blind, but the bird did not appear during several hours of waiting. Since we cannot agree on the species name, the identification of this particular bird will remain a mystery.

MRS. E. M. WEST, 2914 Haywood Ave., Apt. 1-D, Chattanooga 5, Tenn.

RED PHALAROPE. — On November 29, I received a call from Dr. Frank Lovingood of Maryville (son-in-law of the late H. P. Ijams) that he had picked up a bird, apparently just killed, and which he identified as a phalarope! He brought it to me the next day and I took it to the University where it was examined and measured by Dr. Joseph C. Howell and Dr. James T. Tanner, who agreed that it was a Red Phalarope *(Phalaropus fulicarius)*. Dr. Tanner made a skin of it.

The bird was found Sunday, November 29, 1959 about 10:00 a. m., below high tension power lines leading into the Aluminum Company at the junction of 411 By-pass Highway and Middlesettlement Road, which is located approximately two miles west of Maryville and two miles south of McGhee Tyson Airport.

There are two other records of a Red Phalarope in the Tennessee-North Carolina area, which Mr. Arthur Stupka has kindly looked up for me. The first was found (dead) Dec. 17, 1944 at National Park Headquarters near Gatlinburg and was reported in THE MIGRANT **15**, 69-71, 73, 1944 and in the Auk for January, 1946, pg. 102 by W. M. Walker. The second was observed (alive) on Fontana Reservoir near the boat dock October 1, 1949 by Mr. Stupka, B. R. Chamberlain and members of the Carolina Bird Club, and is reported in the Chat for November 1949, pg. 72.

MURIEL B. MONROE, 1424 Tugaloo Drive, Knoxville 19.

WHISTLING SWAN. — On October 25, 1959, Mr. and Mrs. Hugh W. Crownover and friends drove to Hiwassee Bridge, a few miles north of Chattanooga on Highway 58, which forms one boundary of Hiwassee Refuge. Mrs. Crownover was studying a group of sandpipers when someone called her attention to two birds flying with a flock of 20 Snow Geese. She noticed the complete whiteness of the two as they flew over, and when they came to rest on the water nearby, she saw that the necks were longer than those of the geese. Identification of the two birds as Whistling Swans *(Olor columbianus)* was made rather easily under favorable conditions.

A search of THE MIGRANT reveals a few records in former years, mostly of birds that were shot and came to the attention of interested persons. These include sightings or wounded birds as follows: two shot near Knoxville on Dec. 8, 1926, on the Little Tennessee River (**6**, 27, 1935); one shot near Reelfoot Lake Nov. 24, 1932 (**5**, 41, 1934); an immature Whistling Swan was shot Nov. 19, 1938 near Russellville, Ky. (**9**, 97, 1938); during the third week of November 1943 a bird of this species was wounded on Norris Lake (**14**, 80, 1943).

An unofficial report has come to the writer's attention that one of two birds was killed by a hunter who thought it was a goose at Woods Hole Reservoir near Tullahoma during the 1958 hunting season.

In addition, a recent newspaper story originating with the Fish and Game Commission reports that this species was seen at Paint Rock Refuge near Kingston, Tenn., on November 8, 1958, while 50 Whistling Swans were counted there on November 15, 1959. Investigation might produce even more records the past year or two. Apparently, this bird is not as rare in Tennessee as imagined, or is becoming less so.

MRS. E. M. WEST, 2914 Haywood Ave., Apt. 1-D, Chattanooga 5, Tenn.

GOLDEN EAGLE AT CHATTANOOGA. — On January 2, 1960 at about 4:00 p. m., our party of six were checking a spot along the Tennessee River on the North West side of Chattanooga. We were near the base of Elder Mountain. As we finished checking the area we were about ready to leave when one of the group spotted a large bird flying toward us. It was soaring on motionless wings and was very low. The cloud ceiling was also very low, and the bird was below that.

At first one of the more inexperienced called out "Vulture" because it was so dark beneath and it truly was almost black beneath except for a faint bit of white at the base of the tail. The primaries were somewhat lighter than the secondaries much as it would be in a vulture. We noticed however that it glided with wings almost exactly horizontal and also we agreed almost simultaneously that it might be an Eagle. Visibility wasn't too good and we weren't positive. We knew that Bald Eagles were seen regularly in the area but this still didn't satisfy us. The bird flew very low and directly over where we were standing. There wasn't a spot of white anywhere on the underside of the wings. We could see that it was definitely an Eagle. It went on and finally out of sight. We started to read in all of the different books we had and discovered every point we should have looked for.

We thought perhaps it might come back so we waited, and in about 15 minutes we saw it flying toward us again. Once more we saw the same distinguishing characteristics we had noted before, but we still needed a look at the upper side. Then as though it knew what we wanted, it banked showing much white in the tail with a black edge around the back. This confirmed our opinion and with no question we wrote down Golden Eagle *(Aquila chrysaetos)*.

The bird then flew across the river and came to rest on top of a telephone pole where it stayed until we left. (We left at 5:15 p. m.).

At about 5:00 p. m., we were very thrilled and excited to see another large bird sail low over our heads. After careful observation this bird proved to be a second Golden Eagle. Altogether we studied these birds for over an hour and we were very much excited with the report we had to present to the other club members.

JAMES A. TUCKER.

MIST NETTING. — Beginning the latter part of August the Elizabethton Chapter of T.O.S., using five mist nets, netted and banded birds every week-end except Oct. 24 and 25 until Nov. 22. Netting was carried out on the property of Howard Langridge and Mrs. Ruth D. Hughes, T.O.S. Members and at the County Farm. The nets were located in woodland, old weed fields and along stream borders. The stream beds were entirely void of water during the entire period although there was intermittent light rainfall from time to time.

Fourteen members and guests attended the nets and assisted with the operation. The nets were visited at short intervals to avoid injury to the birds and to reduce predation to a minimum.

This period covered the greater portion of the fall migration of most of the passerine birds. Many species were missed because the habitats were not suitable for all species; nets were in operation only 2/7 of the daylight hours; some species migrate largely at night and only a very limited area was covered by the nets used.

A total of 59 species and about 856 individuals were netted and banded. Repeats (individuals which had already been banded) consisted mostly of permanent, summer or winter residents of the area and amounted to only 17% of the total. Some of the rarer species netted were: Philadelphia Vireo, Nashville and Orange-crowned Warblers and Lincoln's Sparrow. Largest numbers banded by species in descending numbers were: American Goldfinch, 196 (7); Song Sparrow, 101 (14); Cardinal, 74 (57); Swainson's Thrush, 70 (1); Field Sparrow, 54 (6); Indigo Bunting, 46 (5) and White-throated Sparrow, 43 (20). Numbers in parentheses indicate the number of repeats.

During most of September we were cooperating with the U. S. Fish and Wildlife Service in what was called "Operation Recovery" where other banders along the Appalachian Mountain Chain were banding during the same period and with the hope that some banded birds might be intercepted somewhere along the migration route.

LEE R. HERNDON, 1533 Burgie Place, Elizabethton.

WATERFOWL BANDING PROJECTS: — In addition to regular waterfowl banding, the Tennessee Game and Fish Commission is participating in two special banding projects in cooperation with the Mississippi Flyway Council to learn more about some species of waterfowl in the flyway. The first of these projects which began in August and continued through November was a concentrated effort to band wood ducks, especially young birds which hadn't yet developed their flight feathers. The program is designed to get more information about the migration routes, breeding and wintering territories, and life span of these beautiful and secretive birds, and to evaluate the effects of hunting pressure and various management techniques on their numbers. A total of 659 wood ducks were banded in trapping operations on Kentucky, Old Hickory, Chickamauga, and Watts Bar Lakes for the special study.

A total of 1,359 other species of ducks have been banded in Tennessee as of January 21, about 350 of which were for a nationwide flyway coordinated project to tag as many wintering mallards and wood ducks as possible. The band return information will be used to pinpoint migration patterns to the breeding areas and back to the wintering grounds. The majority of the birds banded were mallards and black ducks with a few other species being taken. This general banding program was concentrated on Old Hickory and Chickamauga. The low population of birds this year resulted in a 40% decline in banding success in spite of additional effort.

TENNESSEE STATE GAME AND FISH COMMISSION.

COTURNIX QUAIL fail as game. The introduction of this species of Asiatic origin has been given up in Tennessee by the State Dept. of Fish and Game. Beginning three years ago, nearly 29,000 of the birds were banded and released in various parts of the State and of this number, only 147 birds were returned by Tennessee hunters. The problem with Coturnix is mainly due to their tendency to wander and migrate. 34 bands were returned from other states, mostly southward, some from as far as 775 miles. The state of Indiana released about the same number as Tennessee during the past three years with equally poor results.

TENNESSEE STATE GAME AND FISH COMMISSION.

A FIELD GUIDE TO BIRD SONGS. Two 12 inch long-playing (33 1/3 rpm) records. Houghton Mifflin Co., Boston. $10.00

The recorded song and calls of 302 species of birds are arranged to parallel Roger Tory Peterson's "A Field Guide to the Birds of Eastern and Central North America, 2nd edition". The original recordings were made in the field by the Laboratory of Ornithology, Cornell University, whose Dr. Paul Kellogg did most of the selection and editing. The records begin with an introduction spoken by Roger Peterson. The voice of each species is preceded by the voice of Dr. Arthur A. Allen, of the Laboratory of Ornithology, announcing the bird's name and the page number of the "Field Guide" on which the species is described. The songs are grouped into from six to eight bands on each of the four sides of the records to facilitate location of a particular species. The handsome jacket, decorated by Peterson, contains an alphabetical index and a table of contents with notes on the locality where that particular bird was recorded, since there is much geographic variation in the songs of some birds.

So much for the organization of this "Guide to Bird Songs". Now, how useful will it be to the average birder?

The quality of the recordings is, on the whole, very good. The songs and calls sound real, and the illusion of reality is often enhanced by the voices of other birds in the background; almost every marsh bird is accompanied by the songs of Red-wings. Some of the high-pitched warbler songs are almost too realistic in that they tax the ability of the record player to reproduce high frequencies.

The coverage, at least of the birds found in Tennessee, is good. Of all the birds found regularly in this state, excepting waterfowl, the only species omitted from the series are Brown Creeper, Golden-crowned Kinglet, Water (or American) Pipit, and Red Crossbill. Birds as rare as the Whooping Crane and Ivory-billed Woodpecker are included. Thirty-nine species of warblers are recorded here, and certainly one use of these records will be to play them over before spring migration to refresh one's memory on the warbler songs (Who has not had to relearn many of these each year?). It is interesting to compare the voices within many other families, for example, the owls, the wrens, and the vireos. Some species were recorded in more than one locality — for the Red-wing there are records from six areas from Florida to Manitoba — illustrating the variation of bird song with geography.

Some of the voices, such as the Spoonbill's and the Puffin's, will be listened to only out of curiosity, for they have no beauty and probably will never be useful in identification. A very few, such as those from a flock of Cedar Waxwings, are too confused to be good. For many species only songs are included where I would like to be able to compare their calls, alarm notes, and scoldings; the Thrushes are an example of this.

On the whole, bird students will find these records to provide enjoyable listening and to be a great aid in learning bird songs and in identifying some of the more difficult ones. They can be ordered through bookstores, from the National Audubon Society, or from the Laboratory of Ornithology, Cornell University, Ithaca, New York.

JAMES T. TANNER.

THE 1959 CHRISTMAS SEASON BIRD COUNT

By T.O.S. Members

This was the third largest species list (118) of the twenty-nine counts tabulated in THE MIGRANT. Only two counts have exceeded this one, 1954 and 1955 when 122 species were listed on both counts. Reports covered 12 areas in 1954, 10 in 1955 and 13 in 1959. The list from the Cosby area is omitted from the table for lack of space but the species and numbers are given in the paragraph under the heading COSBY.

Two species are new to the list. The Kreider's Hawk from the Nashville area and the Red-shafted Flicker from Memphis.

Only 20 species were reported from all 12 of the locations tabulated. Twenty-three species occur in only one list while only 5 species were represented by a single individual in the composite list. Areas reporting species occurring in no other list and the number of species so reported were: Memphis, 5; Reelfoot Lake, 5; Chattanooga, 4; Nashville, 3; Lebanon, 2; Great Smokies, 2; Greeneville, 1 and Elizabethton, 1.

In the table and the descriptions that follow, the localities are listed from west to east. Under the heading "Information on the Counts" are described the areas covered and prevailing conditions under which the counts were made and other pertinent information. The species and number of individuals observed at each locality are listed in the table. For additional information or comments on the records marked with an asterisk(*), see the paragraph pertaining to that particular locality.

INFORMATION ON THE COUNTS

MEMPHIS. — 1953 areas generally; wooded bottomlands 30%, deciduous woods, city parks, cemeteries 22%, pastures, airfields, farms 20%, suburban roadsides 25%, river edge 3%. Dec. 27. 7 a. m. to 5 p. m., light drizzle, occasional heavy rain, temp. 59-63, wind SSW, 12 to 25, up to W 30 m.p.h.; very muddy. 28 observers in 7 parties. Total party-hours, 80 (60 on foot, 20 by car); total party miles, 195 (55 on foot, 140 by car).

Despite weather, numbers compare reasonably with last year. Lows on certain species may not be representative (Shrike, Swamp Sparrow). Bluebird (2 seen Dec. 25), first time missed on Count (1928 -); Turkey Vulture, missed only in 1944, previously, not noted during holiday period. The Red-shafted Flicker, seen also Dec. 25 and Jan. 1 (BC), was a hybrid, apparently, — entirely red in wing but with black malar stripe. Spotted Sandpiper seen by Jim and Barbara Lovell, also on Dec. 17 and 20; (one on 1957 count here also). House Sparrow count, 1,752, includes a flock, area of spilled grain end railway yard; none counted in main city. White-throated Sparrow, 1519. Estimates at Elmwood Cemetery roost (Gragg School roost unused this year): Starling 100,000, Redwinged Blackbird 250,000, Common Grackle 150,000, Brown-headed Cowbird 200,000. John T. Bigham, Mr. and Mrs. Ben B. Coffey, Jr., Mary Davant, Mrs. Henry Dinkelspiel, John H. Embury, Jr., Bruce Embury, Earl Fuller, Oliver F. Irwin, Mrs. Burt Johnson, Luther F. Keeton, Edward M. King, Prof. and Mrs. J. H. Lovell, Mrs. J. H. McWhorter, Nelle Moore, Maria Osorio, Katheryn Paullus, S. J. Rini, Glynn Roehr, Mr. and Mrs. Chas. Seahorn, Mrs. Henry A. Schiller, Alice Smith, Mrs. Arlo I. Smith, Lynn Smith, R. Demett Smith, Jr., Steve Smith, Mrs. M. L. Torti, Mr. and Mrs. C. E. Wilmeth.

REELFOOT—All points within a 15-mile diameter circle; lake 20%; marsh 5%; deciduous woods 45%; field and farm 18%; roadside 12%. Jan. 2, 7:30 a. m. to 3:30 p. m.; temp. 39 to 42 degrees, wind SE, 5-10 m.p.h., weather very unfavorable for identification and count; overcast and rain. 5 observers in 2 parties. Total party hours 17 (7 on foot, 2 by car, 8 by boat): total party-miles, 85 (12 on foot, 58 by car, 15 by boat). John R. Conder (compiler), Hunter M. Hancock, Preston Lane, Clell T. Peterson and James Wilke.

NASHVILLE. — (Approx. the same area as in past 9 years; a 15 mile diameter circle centering at Harding, 7 miles W. of Nashville). Dec. 27; 6:30 a. m. to 4 p. m. Continuous light rain after 9:30 prevented adequate coverage of territory. Temp. range 56-60 degrees. Little wind. Ground bare; no snow to date. 35 observers in 9 parties. Total party-hours 63 (27 on foot; 36 in car). Total party-miles 160 (22 on foot; 138 in car). Total 70 species; about 9,596 individuals. — Mr. and Mrs. B. H. Abernathy, Mr. and Mrs. Joe Bailey, Mr. and Mrs. Wm. Bell, Earl Bishop, Mrs. Mark Bradford, Jr., Ruth Castles, Mrs. W. Ovid Collins, Mrs. Leon DeBrohun, John O. Ellis, Mr. and Mrs. R. Lynn Farrar, Louis Farrell, Jr., and Louis III, Mary W. Frazer, Albert F. Ganier (compiler), Charles Hunt, J. P. Jones, Will T. Hon, Mr. and Mrs. G. R. Mayfield, Sr., Alan Monroe, John Ogden, Henry Parmer, Mr. and Mrs. Wm. A. Puryear, Mr. and Mrs. C. E. Ruhr, Jennie Riggs, Paul Stumpf, L. O. and Anne Trabue and Michael Tine.

LEBANON. — The area we covered is the same as for the past several years. All of the large numbers come mainly from the refuge area of Old Hickory lake — doves, Starlings and the like being somewhat augmented from all over the area. Duck population on the refuge is somewhat below last year, I think.

COOKEVILLE. — While the area under observation was essentially the same as that of 1958, there was an extension to the overcup-oak swamp about 8 miles south along Tenn. 42 (Sparta Road). The territory studied, in terms of miles, was: north 15 mi.; east 8 miles; south 8-9 miles. (None to west of Cookeville). The area includes two small lakes, a few ponds, and some 400 acres of swamp, in addition the usual habitats. Distribution was approximately: field and fence rows 60%, deciduous and mixed forest 34%, vacant lots and streets 2%, stream-lakes-ponds 2%, swamps 2%.

Dec. 31; 8 a. m. to 5 p. m.; cloudy early, clearing most of day; temp. 22-42 degrees F.; wind NW, 2-6 m.p.h. Party hours — 100 in nine parties; party miles — (car) 230, (foot) 20.

Three features of note: 1) absence of water fowl (Ducks were seen that week, but not on 12/31) 2) the unusually large number of **two** species — Grackles and Starlings. (The Starlings had been numerous for some time, but in flocks of 20-50). Apparently the big count (RTH) came as birds were leaving their roost. Grackles, more than 500 (PLH), were feeding on seed waste left in a sorghum cane field. Killdeer and Black Vultures were seen in the area, but not on count day.

Sixteen individuals in 9 parties: Bill Brown, Ralph and Mrs. Dunckel, Mrs. James Haile, Roy Hines, P. L. Hollister, Mrs. Amy Johnson, Mrs. Charon Loftis, Mrs. Dave Maddux, Sidney and Mrs. McGee, J. T. Moore and Mrs. Moore, Maurice Morehead, Miser Richmond (compiler), Sue and Mrs. C. P. Snelgrove.

CHATTANOOGA. — Area moved slightly to include a useful portion of Signal Mt., Tenn. However, heavy fog offset the expected benefits. Jan. 2; 7:45 a. m. to 5:00 p. m.; completely overcast, rainy in afternoon, temp. 38 to 45 degrees F. Wind SSW, 5-12 m.p.h.; 23 observers in 8 parties. Total party hours, 61.

The Golden Eagles and Redwinged Blackbirds were added to Christmas Census list, making a total of 91 species that have been recorded on our 7 Christmas censuses.

The Golden Eagles were observed for about an hour, frequently at close range, by a party of 6 led by James Tucker.

Both the number of observers and the party hours were more than doubled that of last year, thanks to several new members and greater cooperation from old members, resulting in an increase from the previous high of 69 to 73 species — all this in spite of very unfavorable weather.

Leo Acuff, Mrs. Naomi Banks, Mrs. J. R. Barnwell, Mr. and Mrs. T. S. Barr, Benton Basham, Dr. W. K. Butts, Mr. and Mrs. R. L. Comstock, Jr., Miss Gladys Conner, Mrs. Leon F. Cross, Mrs. Hugh Crownover, John Freeman, Billy Griffith, Nat Halverson, Mrs. H. L. Sliger, John Stiles, Mr. and Mrs. James A. Tucker, Mrs. D. L. Tunsberg, Mr. and Mrs. E. M. West, and Miss Sara Whitworth. R. L. Comstock was compiler, and Mrs. E. M. West was reporter.

KNOXVILLE. — (7½ mile radius centered at junction of Oak Ridge Highway and Ball Camp Pike; this is about three miles further west than the area worked in previous years; it includes Powell Station, Fountain City, Island Home, mouth of Little River, and Andrew Jackson Lake); open farmland and old fields 35%, deciduous and pine woodlots 15%, river and lakes 15%, roadsides 35%. December 27, 7 a. m. to 6 p. m. Partly cloudy to overcast; temp. 55 to 67 degrees F; little wind; 17 observers in 10 parties. Total party-hours, about 62. John Elson, Bill Gallagher, Mary Enloe, Mr. and Mrs. H. C. Garlinghouse, Q. Gorman, David Highbaugh, Tony Koella, J. Loveday, Mr. and Mrs. R. A. Monroe, Mrs. E. E. Overton, J. B. Owen, Paul Pardue, Mrs. Kenneth Sanders, David Tanner, James T. Tanner (compiler).

The Blue Goose has been staying at a small lake for some time. The Palm Warbler and Vesper Sparrows are rarely seen here in the winter. A Hermit Thrush, not seen on the day of the count, was seen on December 30 in the area.

GREAT SMOKY MOUNTAINS NATIONAL PARK. — Tennessee-North Carolina (all points within a 15-mile diameter circle, center at junction of Laurel Creek and Bote Mountain truck trail, including Abrams Falls, Laurel Lake, Elkmont, and junction of Hazel Creek with Bone Valley Creek; open farm land 15%, old fields 25%, forests 30%, roadsides 20%, stream courses and reservoir 10%.) Jan. 3; 7:30 a. m. to 5:30 p. m.; partly cloudy; temp. 35 to 50 degrees; wind W, 10-15 m.p.h.; ground bare and well saturated. 36 observers in 11 parties. Total party-hours, 83 (69 on foot, 19 by car); total party-miles, 298 (87 on foot, 211 by car). Jane Briscoe, Brockway Crouch, William Downy, John Elson, Mary Enloe, Mr. and Mrs. Harold C. Garlinghouse, Robert B. Hamilton, David B. Highbaugh, Phillip Huff, Mrs. Elsie S. Janson, Tony Koella, Beth Lacy, Charles Loveday, Dorothy MacLean, Richard P. Martin, Wm. T. Martin, Jr., Dr. and Mrs. Stanleigh R. Meeker, J. T. Mengel, Mr. and Mrs. Robert A. Monroe, Fred

Moses, Miss Anne Moyer, Mrs. E. E. Overton, Paul S. Pardue, Richard W. Russell, Robert R. Scott, Mr. and Mrs. L. F. Smith, Jr., Mr. and Mrs. Arthur Stupka, Mrs. Thomas C. Swindell, David Tanner, Dr. James T. Tanner, James Wardley. (Tennessee Ornithological Society, National Park Service, and guests).

COSBY. — Recreation area to Low Gap along trail to Black Mt. and return by Rock Creek trail to Recreation area. Eastern end of Great Smoky Mountain National Park. Dec. 27; 8 a. m. to 5 p. m. Mild, cloudy, clouds to well below top of Mt. Guyot (6,000'), overcast; temp. 54 degrees; wind 0 at bottom to 40 m.p.h. at top; 13 mi. all on foot. Ruffed Grouse, 4; Pileated Woodpecker, 4; Hairy Woodpecker, 2; Downy Woodpecker, 2; Common Crow, 5; Black-capped Chickadee, 10; Carolina Chickadee, 12; White-breasted Nuthatch, 2; Brown Creeper, 1; Winter Wren, 1; Robin, 104 (roost); Golden-crowned Kinglet, 7; Slate-colored Junco, 10. Total 13 species, 164 individuals. Ruth and Richard Nevius.

GREENEVILLE. — Usual territory covered as in previous years. Jan. 1, 1960 8:00 a. m. to 4:30 p. m. Clear; temp. 27 to 40 degrees F.; wind 1 to 5 m.p.h. Seven observers in 5 parties; total party-hours 18; total party-miles 125 (120 by car, 5 on foot). Observers — Mrs. Willis Clemens, Dr. and Mrs. Turner Clinard, Mrs. Chester Darnell (compiler), Mr. and Mrs. Richard Nevius and Mrs. J. B. White.

KINGSPORT. — Usual area centering on Pactolus, including south-eastern slope of Bays Mountain and reservoir, borders of Boone Lake around dam. Dec. 27 7:30 a. m. to 5:00 p. m.; overcast; 50 to 67 degrees F.; no wind; nine observers in six parties; total party hours 32; total party miles 16. Thomas W., Dan and Tommy Finucane, W. E. Gift, Mr. and Mrs. W. B. Hincke, Mrs. W. C. McHorris, Mrs. J. Winston Smith, Mrs. R. M. Switzer (compiler).

BRISTOL. — The usual area in the vicinity of Bristol including part of South Holston Lake. Dec. 26, 7 a. m. to 6 p. m. Sunny, 40 to 50 degrees F.; wind 8 to 10 m.p.h. 8 observers. Mrs. J. Abbott, Wallace Coffey, Mrs. Earl Francisco, Miss T. Kennedy, Mr. and Mrs. Herbert Miller, H. W. Nunley (compiler), and Hank Woodward.

The Osprey was sighted by Mrs. J. Abbott, at South Holston Dam Dec. 26, 1959. It was observed through a pair of 7 X 30 binoculars also a telescope, however it was on the opposite side of the lake. The exact location was at the Sullins College Camp. The caretaker of the camp told them it had been there for several days and that he had watched it catch fish then fly to the opposite side of the lake and he would watch the bird eat the fish. As I understand this is the second time the Osprey has been seen there at Christmas time.

ELIZABETHTON. — Same area as for the past 15 years, with center at Valley Forge. Jan. 3, 6 a. m. to 6 p. m.; mostly cloudy with occasional sunshine; temp. 46 to 52 degrees; wind 25 to 40 m.p.h. Nine observers in 7 parties. Mrs. Earl Bashor, J. C. Browning, Ralph Bullard, Ed Davidson. Kenneth Dubke, Mr. and Mrs. Lee R. Herndon, Roby D. May, Jr. and Frank Ward.

THE 1959 CHRISTMAS SEASON BIRD COUNT

	Memphis	Reelfoot Lake	Nashville	Lebanon	Cookeville	Chattanooga	Knoxville	Great Smokies	Greeneville	Kingsport	Bristol	Elizabethton
Horned Grebe						3						
Pied-billed Grebe				4		1	1	6		2		
Dbl.-cr. Cormorant		3										
Grt. Bl. Heron	1	2	4	15		3	19	2	3	2		
Little Bl. Heron				8								
Bl.-cr. N. Heron			23									
Canada Goose		9,675				5			14		2	
Blue Goose	2			4			1					
Mallard	28	38,850	39	4,500		6	4	60		10	4	4
Black Duck		1,000		1,200		40		17		6		6
Gadwall		9,600				6						
Pintail		2,000		25								
Grn.-wg. Teal		100										
Bl.-wg. Teal									1			
Am. Widgeon		6,500				1						
Shoveler		1,000							1			
Wood Duck		100		50			2					
Redhead		5										
Ring-necked Duck		8,500		100		5		60		4		1
Canvasback		400	5									
Lesser Scaup	56	600	51	25						7	5	
Com. Goldeneye		100								2		
Bufflehead		250							3			17
Ruddy Duck		250	1					9				
Hd. Merganser		40				4	3	1				

Common Merganser		25										
Red-br. Merganser						2						
Turkey Vulture			3	15	1				45	7	27	
Black Vulture		7	9					1	61		1	
Sharp-shd. Hawk								1				
Cooper's Hawk		1		1	1	2	5	1	1	1	1	1
Red-tailed Hawk	26	9	14	2	4	5	1		4	1	1	
Kreider's Hawk			1*									
Red-sh. Hawk	1	2	6			2	4					
Rough-legged Hawk			1									
Golden Eagle		2				2*						
Bald Eagle		4										
Marsh Hawk	9	3	2		1				1			
Osprey		4									1*	
Sparrow Hawk	13	3	39	7	1	14	3	10	8	2	7	12
Ruffed Grouse								6		1		
Bobwhite	147		29	70	38	32	16			20	1	
Ring-nkd. Pheasant				50								
Turkey								5				
Am. Coot		750	1	50				90				
Killdeer	57	1	117	6	1	72	171	2	67	8	45	63
Com. Snipe			2			3	54	16	1	3		4
Spt. Sandpiper	1*											
Herring Gull	3	1				9	6			6		
Ring-bld. Gull	100	2				80	123	1		14		
Bonaparte's Gull						7						
Rock Dove				30	2		35	4	18			6
Mourning Dove	110	1	68	550	200	120	300	39	290	15	18	60
Barn Owl	1			2								
Screech Owl	1		3			1	2		1			
Grt. Horned Owl	1		3	1			1					

Barred Owl	.....	1	2	.....	.....	.....	1	.....	.....	.....	.....	.....
Blt. Kingfisher	4	1	21	1	2	8	20	15	1	3	3	7
Yel.-sh. Flicker	129	10	80	2	19	38	23	6	5	4	9	6
Red-sh. Flicker	1*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pil. Woodpecker	3	3	11	2	15	8	18	34	6	3	.....	2
Red-bel. Woodpecker	58	5	41	6	8	21	23	.....	14	5	.....	1
Red-hd. Woodpecker	1	.....	4	.....	7	8	.....	.....	1	.....	.....	.....
Yel.-bel. Sapsucker	16	.....	5	3	9	10	12	2	2	4	.....	4
Hairy Woodpecker	11	1	11	7	12	5	3	7	3	1	4	5
Downy Woodpecker	55	.....	68	12	20	40	43	49	20	13	9	21
E. Phoebe	1	1	1	2	2	3	5	14	1	1	.....	3
Horned Lark	208	.....	16	35	17	.....	6	.....	5	.....	.....	4
Blue Jay	312	14	100	11	131	210	300	93	63	43	61	58
Com. Crow	76	500	800	1,675	133	282	557	564	3,000	52	290	490
Bl.-cp. Chickadee	.....	.....	.....	.....	.....	.....	.....	293	.....	.....	.....	.....
Carolina Chickadee	126	18	195	15	50	107	284	.....	44	65	49	65
Tufted Titmouse	48	6	130	20	75	148	173	115	31	29	23	41
White-br. Nuthatch	2	1	2	1	8	35	6	9	2	1	9	1
Red-br. Nuthatch	.....	.....	1	.....	.....	.....	.....	7	.....	1	1	.....
Brown Creeper	6	1	5	.....	1	6	8	19	.....	3	.....	3
House Wren	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	1
Winter Wren	9	.....	1	1	1	8	1	23	2	3	.....	.....
Bewick's Wren	2	1	8	5	7	6	1	.....	7	.....	.....	.....
Carolina Wren	124	6	74	8	21	65	220	63	38	27	10	33
Mockingbird	164	2	188	24	60	117	350	9	31	24	26	40
Brown Thrasher	6	.....	1	.....	3	16	4	.....	.....	.....	1	.....
Robin	860	8	37	3	27	154	206	166	34	48	.....	56
Hermit Thrush	13	.....	.....	.....	.....	1	.....	4	.....	1	.....	.....
E. Bluebird	.....	.....	148	18	39	37	55	54	16	12	.....	11
Gold-cr. Kinglet	33	20	7	2	.....	5	16	106	.....	2	.....	3
Ruby-cr. Kinglet	23	2	1	24	.....	10	.....	2	.....	1	.....	.....
Water Pipit	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Cedar Waxwing	17	.....	26	.....	.....	626	30	224	30	13	.....	54
Lgr.-hd. Shrike	13	5	21	7	9	15	10	5	5	.....	1	3
Starling	100,000	900,000	5,000	8,620	17,700	1,659	3,350	251	2,000	200	1,325	514
Myrtle Warbler	35	1	111	.....	4	56	78	38	10	29	14	260
Pine Warbler	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....
Palm Warbler	.....	.....	4	.....	.....	.....	1	.....	.....	.....	.....	.....
House Sparrow	1,752	1	275	75	125	403	113	96	90	98	627	244
E. Meadowlark	425	70	272	90	145	386	225	177	36	138	4	52
W. Meadowlark	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Redwinged Blackbird	250,000	1,800,000	27	50	6	384	1	.....	1	.....	.....	.....
Rusty Blackbird	14	.....	.....	450	.....	419	10	.....	.....	.....	.....	.....
Brewer's Blackbird	25	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Com. Grackle	150,000	90,000	.....	1,000	814	2	154	.....	9	200	1	1
Br.-hd. Cowbird	200,000	210,000	.....	.....	3	4	12	.....	.....	.....	.....	.....
Cardinal	658	148	466	87	116	269	270	148	107	31	39	90
Evening Grosbeak	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
Purple Finch	44	.....	46	28	22	52	60	47	14	10	.....	23
Pine Siskin	.....	.....	1	.....	.....	.....	.....	15	.....	.....	.....	.....
Am. Goldfinch	206	25	128	1	51	260	174	135	28	14	24	89
Ruf.-sd. Towhee	73	.....	70	7	74	147	146	31	10	22	1	30
Savannah Sparrow	35	.....	2	.....	1	6	10	1	.....	.....	.....	.....
Vesper Sparrow	.....	.....	.....	.....	49	10	4	1	.....	.....	2	.....
Slate-col. Junco	860	140	320	20	90	389	235	545	72	45	30	134
Field Sparrow	210	.....	137	.....	137	187	226	268	85	23	.....	71
Wh.-cr. Sparrow	27	.....	59	2	.....	9	7	.....	40	3	10	13
Wh.-th. Sparrow	1,519	.....	178	2	80	343	307	280	108	63	46	132
Fox Sparrow	107	.....	6	.....	7	8	1	12	.....	.....	.....	1
Swamp Sparrow	83	1	17	.....	18	11	11	41	8	.....	3	2
Song Sparrow	217	2	131	1	70	172	262	274	18	10	20	73
Lapl. Longspur	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTAL SPECIES	69	66	69	59	53	73	67	61	56	56	40	50
Total Individuals	709,195	3,080,784	9,679	19,032	20,439	7,594	8,783	4,574	6,528	1,356	2,715	2,829

Grand total species, 118; individuals, 3,874,008.

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GUEST EDITORIAL

A recent news items has prompted me to consider the possibility that T.O.S. members should probably expend more effort in making their interests generally known and understood, not only to persons with similar interests but to those whose hobbies and vocations put them in a position to be useful to us. Among these classifications are fishermen, hunters, forestry personnel, conservation and game officers.

Information of interest and value is going to waste because T.O.S. members are not hearing about some of these matters until it is too late. Four weeks after the birds were seen, a local community newspaper printed a news release of the Fish and Game Commission about 50 Whistling Swans at Paint Rock Refuge near Kingston, Tennessee. About two weeks later, it got a mention in the Chattanooga Times. Undoubtedly, numerous members would have gone to see the swans had they known about it soon enough.

Do you know all the conservation officers in your area? Do they know that you welcome prompt reports of unusual observations? Should we appeal to the Fish and Game Commission for their cooperation? Could the "rare bird alert" be adapted for use on a regional basis?

Something is amiss when the important bird events of our state must be read in the newspapers instead of in THE MIGRANT, and when publication in THE MIGRANT is undesirable because the event has not been confirmed by the personal experience of a member.

Let's see if we can't do something about it!

ADELE H. WEST, Chattanooga.

FELLOW SPORTSMEN. — Tennessee's 1959-60 waterfowl season has ended. Game and Fish Commission records show that hunter success was far below that of last year, and revenue from duck stamp sales is lower this year because of a lack of hunting interest. This money, used exclusively for the purchase of wetlands, is urgently needed to prevent recurrence of this year's bad situation. A water shortage in natural breeding areas cut production drastically. Better conditions are in prospect for this year's nesting season, but nature's duck factory still needs all the help we can give it.

Even though the season is over, I strongly urge all persons who have not yet purchased a water fowl stamp to get one **now.** I suggest that we waterfowl hunters who are really interested in preserving the sport go down to the post office and purchase a **second** duck stamp. Let's all buy a share in America's waterfowl. Sincerely,

BUFORD ELLINGTON, Governor.

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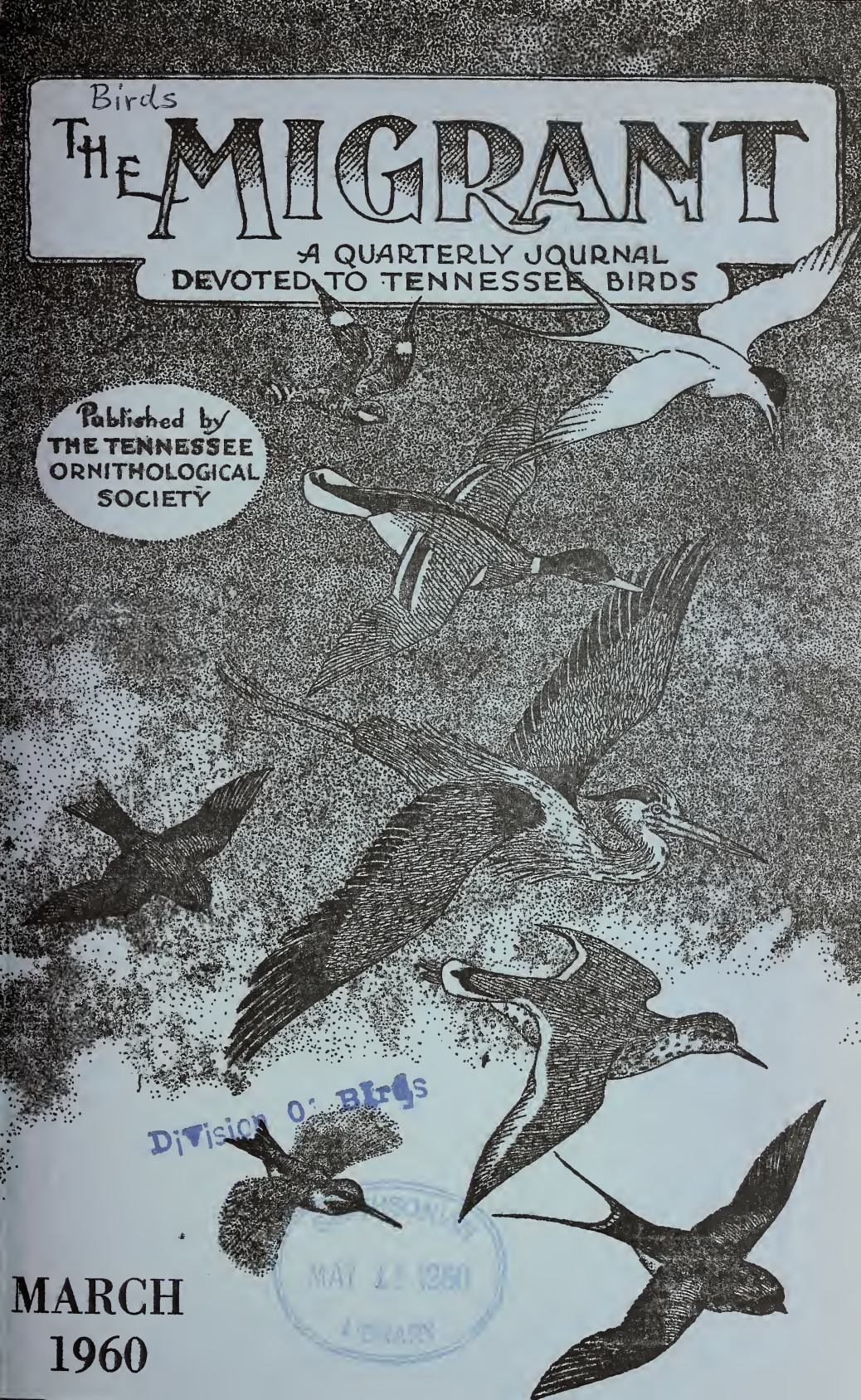

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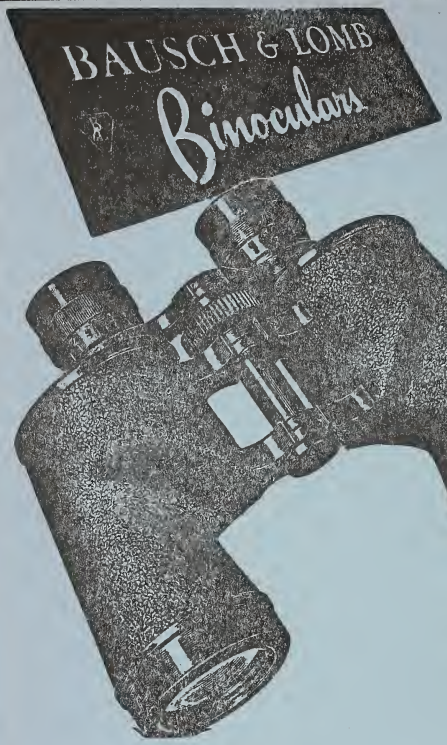

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VOL. 31 MARCH 1960 NO. 1

ANNUAL AUTUMN HAWK COUNT 1959

By THOMAS W. FINUCANE

The Broad-wing migration in the fall of 1959 was sensational. We had four big weekends between Sept. 12 and Oct. 4. The total was 11,500 hawks, of which 11,000 were Broad-wings. Before Sept. 12, the count was only 5; between Sept. 12 and 15 it was 2200. During the weekend of Sept. 19 and 20, we had 4000, and on the following weekend, Jack Brumit estimated 3000 hawks flying past White Rock, about 10 miles southeast of Elizabethton, Sept. 27 during a period when stations to the north and to the south were cut off by heavy clouds. The count for Oct. 3 and 4 was 900 Broad-wings.

While the T.O.S. Hawk Count was compiling the highest total in the ten years of its history and four times its average annual total, groups engaged in the same activity in other parts of North America found relatively few hawks. The Hawk Mountain Sanctuary had their poorest flight since 1946, with a total of 5282 Broad-wings. They attribute this to high-pressure atmosphere and no winds, conditions which scatter the hawks instead of channeling them through their observation station. The **Hawk Mountain Sanctuary Association News Letter to Members** No. 30, March, 1960 says:

"The same conditions were experienced wherever hawk-watchers gather, at the Montclair Hawk Lookout Sanctuary in N. J., and in the Toronto area, for example."

Before explaining why our migration was so heavy, we should wait for the summary distributed every year by the Patuxent Research Refuge, which supplies Broad-winged Hawk totals for about 30 stations, from Ontario, Canada, to Texas, to all contributors. Nevertheless, some aspects of this interesting question can be explained on the basis of what we now know. Hawk Mountain and Montclair Lookouts function best when the wind is blowing; nevertheless, in this "dismally disappointing" year their total Broad-wing counts were probably not much below their ten-year average. The Clinch Mountain, on the other hand, is a long, nearly isolated ridge which provides good thermals. In the section of this ridge where the Mendota Fire Tower is located the Broad-winged Hawks continue down the Clinch when there is no wind, but when a favorable wind is blowing, the Broad-wings leave the ridge and fly southwest toward Kingsport. This fact may explain the large count this year at the Mendota Fire Tower, more than 4200, with a clear indication that at least as many passed over when the station was not manned.

On the basis of our experience, we can conclude that the number of Broad-wings this year was much higher than usual and that it took a different course. Fred Behrend stated that it was the queerest migration we

SMITHSONIAN INSTITUTION MAY 4 1960

have studied. Evidently a large number of these Buteos went far to the east of their normal route and then went west through our territory. It is not difficult to accept the idea of a flight course which runs first southeast and then southwest. We know from our data that the pattern changes from year to year. It changes to conform with atmospheric conditions. The updrafts used by the Broad-wings as a means of propulsion are generated by interactions between the air and special features of the solid and liquid surface of the earth. But in addition to thermals and deflection winds, there are several kinds of updrafts in the atmosphere which persist in spite of the character of the terrain below. These are found, in particular, in discontinuities between air masses.

Early in September a cold front crossed North America with a strong northeast-southeast orientation, evidently distorted by the warm air mass which occupied eastern America. Such a front generates a northeast wind within itself, but when the front is moving rapidly east, its wind effectively blows from the northwest. There is also a strong updraft in a front of this kind. To utilize the wind and the updraft, soaring birds might find it economical of time and energy to allow themselves to be carried east of their normal course in exchange for a quick trip south.

Another very important feature of the 1959 T.O.S. hawk survey was that the number of hours of observation, 327, was a new record for the project. The number of observation stations was also high. Ten stations reported on Sept. 20. This was the effect of proper preparation—of giving everyone information on what was planned. To a large degree the success of this year's hawk project can be attributed to the energy and enthusiasm of T.O.S. President Paul Pardue.

NOTES

1. J. T. Mengel and Paul Pardue record the first Broad-wings of the season, rather late and not many.

2. The clouds were heavy and moved slowly. We saw 22 Turkey Vultures flying south over our house, in Kingsport, at 9 a.m., a most unusual sight.

3. From 9 a.m. to 2 p.m. when we were rained out not a single hawk was seen. We did see 10 Black Vultures.

4. These 12 Broad-wings were spotted flying over the Y-12 Plant.

7. Mrs. Crownover saw 3 Broad-wings fly over her house at 1:30 p.m., and this gave her the impetus to go to the fire tower, where she arrived at 2:30. The huge early-season flight was unexpected.

8. The Broad-wings were counted by the Wests in the Smoky Mt. Park and toward Cleveland, Tenn.

10. Mr. and Mrs. Nevius and Mrs. Darnell reached the Rogersville-Kyles Ford Fire Tower, on the Clinch Mt., at 7 a.m. and saw two Sparrow Hawks before 8:00. Of their 465 Broad-wings, they saw 375 before 11:00.

11. Only 14 of the 407 Broad-wings listed in this report appeared before noon. We arrived at the Mendota Fire Tower, on the Clinch Mt., at 10 a.m., too late for the big flight recorded in the preceding note, if it passed near our lookout.

13. Paul Pardue saw 22 Black Vultures riding the same thermal with these 13 Broad-wings.

14. Mrs. Switzer and her son, R. M. Switzer, Jr., spotted 507 Broad-wings between 11:15 a.m. and 2:15 p.m. Of these, 167 were seen during the first half hour and 234 during the final half hour, at the Mendota Fire Tower. Two days later they observed another large flight, important data between weekends.

17. Mrs. West says a front passed between 10 a.m. and noon. "Nearly all birds were very low. At least 3 groups of 3 to 25 Broad-wings were seen to rise not far from us, between the valley floor and the top of the mountain. Twelve Red-headed Woodpeckers flew SW to NE, over a period of about 5 to 10 min."

18. This report and item 9 are remarkable in showing only one Broad-wing each, at a time when really tremendous numbers of this species were migrating. The other stations manned by the Knoxville Chapter also had small flights. The biggest list among those from House Mt., Black Oak Ridge, Sharps Ridge, and the Clinch Mt. Fire Tower in Grainger County was topped by 16 lists from other stations. The Knoxville observers, however, persevered and provided a significant comparison between their stations and those on the main flight channel, which seems to have approached Knoxville from the east and passed it on the south.

19. Mr. Pardue and Mr. Highbaugh were at the Sharps Ridge Fire Tower at 7 a.m. They saw 59 Broad-wings before 8:30 and 29 more before 9:00. Only 3 were seen after 9:30.

21. James Finucane and I reached the Mendota Fire Tower at 8 a.m. The wind was so high we decided (according to our notes) to stay one hour only, on the lee side of the little shack near the tower. Later when we tried the windward side to get the warmth of the sun, we were amazed to see Broad-wings floating in the haze, at eye level, and not upset by the gale. They were crossing the Clinch from south to north. We counted 70 between 9:00 and 9:30 and regretted those that had passed unwatched between 8:00 and 9:00. We estimated the wind at 40-50 mph at 8 a.m., below 40 by 9:45, down to 30 at 10:00, down to 20 at 11:00, a slight breeze at noon, dead at 2:00, and still dead at 4:35. As the wind fell the hawks rose higher with the thermal.

The 1184 Broad-wings were counted, one by one, except for an estimate of 30 we made on a large group that slipped past us. It was our only large group, and it came in the middle of our only lull.

Between 3:00 and 3:20, we counted 40 Black Vultures sailing over, very high.

22. Sept. 20—Following a suggestion by Dr. Tanner, we selected this day for a combined operation. It was the Sunday closest to the average peak date in our Broad-wing migration. Ten stations reported. They are listed here roughly from west to east, a plan which is consistent with the order of listing dates—early birds first.

At the Elder Mt. Fire Tower, which has been one of our best sources of data, the following people assisted in the count of 842 Broad-wings: Mr. and Mrs. Hugh Crownover, Mr. and Mrs. D. L. Fleming, Mr. J. E. Lawson, Mr. and Mrs. H. L. Sliger, and Mr. and Mrs. E. M. West. Mrs. West noted that this was the largest single day's count made in Tennessee since the fall of 1957 when Richard Nevius watched 1000 Broad-wings cross the Clinch Mountain just ahead of a thunderstorm. The total of 1184 counted at the Mendota Fire Tower (item 21) was, of course, in Virginia. All but 100 of the 824 Broad-wings were seen between 12:30 and 2 p.m., at Elder Mt.

23. Bob Hamilton, Jessie Dempster, Tee Brichetto, and Paul Pardue counted 44 Broad-wings between 9 a.m. and noon. Not a single large bird was observed flying while the east wind blew. (8-10 mph between 7 and 9, from the east; 4 mph after 9, from the south).

24. J. B. Owen, David Highbaugh, Mary Enloe, Jane Brisco, Bill Gallagher, Holly Overton, and Harold and Kay Garlinghouse counted 22 Broad-wings from House Mt., 7:30 to 3:50. The flight started at 9 a.m., and continued piecemeal until 1:00, after which only one was seen, at about 3 p.m.

25. Dr. Tanner saw 70 hawks, including 62 Broad-wings, from his station at the fire tower on the Clinch Mt. in Grainger County, northeast of Knoxville. It is interesting that the total was so small compared to 478 at the Rogersville Fire Tower and 735 at the Mendota Fire Tower on the same day. The point is, that the Broad-wings were leaving the Clinch as they traveled west. This was the third day of continuous heavy migration of the Broad-winged Hawk along the Clinch Mountain; hence the progressively smaller numbers from east to west cannot be attributed to a time factor. Furthermore, Dr. Tanner's station was one which he has used for observation in previous years, with the result that it has been shown to be a point the Broad-wings sometimes fly by in large numbers. The explanation (or at least one which seems to work) is that the migration this year was from the east. In other words very few Broad-wings were approaching the Clinch from the north, and those which passed the Mendota Fire Tower were leaving the Clinch, to head southwest, in much greater numbers than those which were entering the Clinch from the north. Additional support for this interpretation was provided by Mrs. J. G. Smith, of Kingsport, who drove to Knoxville from Kingsport on Sept. 19 when the Broad-wing migration was very heavy. She saw large numbers of hawks crossing Highway 11-W, which runs parallel to, and not far from, the Clinch. She reported that the hawks were crossing the road, from north to south, in large numbers and rather low above the road, all the way from Kingsport to Knoxville, about 90 miles.

26. Mr. Alfred Bauerschmidt, Mr. and Mrs. Turner Clinard, Mr. and Mrs. Chester Darnell, Mr. and Mrs. Walter Gray, Mr. and Mrs. Horace Kerr, Mr. and Mrs. Richard Nevius, Carl and Dr. Royal B. Spees, and Mrs. J. B. White counted 499 hawks, including 478 Broad-wings and a Golden Eagle, at the fire tower located on the knob just west of the cut where the Trail of the Lonesome Pine crosses the Clinch Mountain between Rogersville and Kyles Ford. Although some of the people listed above enjoyed their first sight of the hawk migration on this occasion, this lookout has been covered by members of the Greeneville Chapter since the beginning of the T.O.S. hawk project. It is a beautiful place for hawk watching and has provided interesting results over the past ten years. In contrast with the Mendota Fire Tower Knob, 40 miles to the east, the lookout north of Rogersville seems to be a collection point for migrating hawks.

27. Mr. and Mrs. Arthur S. Smith, Thomas, Dan, and Tommy Finucane counted 735 Broad-wings, all but 10 of which were seen between 9:45, when we arrived, and 2:30. We stayed until 5:45. As on the day before, there were no large groups of hawks. When we arrived, there was a good breeze from the southeast and the Broad-wings were circling in little kettles at eye level, in the early morning mist. We counted 100 in the first 15 min. and wished we had started earlier. Toward noon the wind died and the Broad-wings flew by very high. Arthur Smith and Tommy Finucane were

able to count large numbers at the limit of vision, against a bright sky. To do this the observer lies on his back and keeps his eyes attached to a small patch of sky across which he expects the hawks to fly. When they come, they are tiny specks to the unaided eye. When the air is dead, the hawks fly almost exactly above the fire tower and head towards the next knob.

28. Judith Abbott and Thelma Kennedy, Bristol. Their lookout, McQueen's knob, is on the border of Sullivan and Johnson Counties, Tennessee, in the Cherokee National Forest. The birds were flying well overhead, about 5000 ft., except three, unidentified, falcons at about 4000 ft. The latter, extremely fast, appeared larger than Sparrow Hawks. All were flying east to west. It is interesting that the Broad-wing count, 48 in 8½ hrs., was at the same level as House Mt., Sharps Ridge, and the Grainger Co. Fire Tower on the Clinch. Mrs. Abbott saw 47 of her 48 Broad-wings between 9:30 and 11:30, with 34 between 11:00 and 11:30.

29. Tom Odom, Shannon Odom, and Garland Ruth, Kingsport, watched from 2 p.m. to 4 p.m. at the Bays Mt. Fire Tower, situated on a cliff more than 1000 ft. above the Holston River. This previously untried post seems to be an Osprey flyway. We have had data in previous years from some of the other points on Bays Mountain. In not having better coverage there this year, we missed an opportunity to pin down the flight pattern even more securely. Several days of all-day observing from more than one post on Bays Mt. would have been very interesting; we would have managed it, somehow, if we had had advance knowledge of the big migration this year.

30. Edward Davidson saw 6 Broad-winged Hawks and one Red-shouldered Hawk at the Watauga Dam Overlook, between 1:30 and 3:00 but nothing for the next 90 min.

31. Fred Behrend reported 2 Broad-wings, from the Hump Mt. Bald (4700-5587) on the Carter Co., Tenn., and Avery Co., N. C. line. This is the first of 8 consecutive days of observation by Mr. Behrend along the southern border of Tennessee, a program carefully planned to include the peak of migration of Broad-wings. Comments on the results in this area will be given under Note 55.

This completes the reports from the 10 stations active on Sept. 20. Although no conclusions have been reached on the determination of flight times between stations, which was one of the objects of the combined-operation plan, the project was a success in many other ways, as shown by the notes given above. The original reports, or copies of them, are on file, available to anyone interested in writing for copies.

Careful analysis of the reports, which give data on a half-hour basis, would probably yield information on speed of travel between stations. This would often be much slower than actual flight speed, since the Broad-wings frequently encounter adverse flying conditions. We hope to make direct measurements of the speed of flight of Broad-wings travelling in the high thermals over the Mendota Fire Tower.

32. The 75 Broad-wings in this report are the first of a total of 142 observed in four visits to Brainerd Park, in the east part of Chattanooga, by Mrs. Crownover, who also took part in two expeditions to Elder Mt. (see Note 7).

33. This year we had 6 Bald Eagles and 3 Golden Eagles. Two of the Bald Eagles were reported from Elder Mt.; 4 Bald Eagles and 2 Golden Eagles were reported from the fire tower north of Rogersville. This is more

than we have reported in any previous year. In accounting for this fact, we must consider that we spent 327 hrs. observing, about three times our previous record. The eagles were reported from two of the three stations which witnessed the major Broad-wing migration, the exception being the Mendota Fire Tower. Mrs. Darnell reported that:

Three miles west of Greeneville, Tenn.—I saw an eagle flying fairly low with Cooper's Hawks. The huge bird had white spots under the wings and at the base of the tail. Feet and legs could clearly be seen stretched back across the white background. I described it to the Neviuses and studied descriptions in Peterson and Audubon. We concluded it was a young Golden Eagle. An occasional eagle has been reported in this area.

34. The 80 Broad-wings listed on this report, Sept. 21, at the Holston High Knob Fire Tower, was the best day's total in the 8 days of observations by Mr. Behrend. The Broad-wings seen on the other 7 days added up to 42. The date and the location of this report bring it relatively close to the migration pattern determined by reports from the Clinch Mt. The fire tower on Holston High Knob is visible in daylight, about 20 miles south of the Mendota Fire Tower. Mr. Behrend made the following comment:

"The Broad-wings, 55 between 3 p.m. and 4:30, came all from northern direction across Holston Lake, approaching apparently from Walker or Clinch Mt. on west side of Valley".

41. Sept. 24—Brainerd Park. Mrs. Crownover says, "The (52) hawks seemed to be coming from north to SW today. The 42 Broad-wings were rather low in a large soaring flock. They picked up a thermal and then straightened out so I was able to count them. The 9 unidentified were too high and flying rather fast".

45. The 226 hawks in this report were seen by Mrs. Bell and Miss Castles, Sept. 24 and 25, near Bon Air, 7 miles east of Sparta, Tenn. This station is 75 miles by air and 110 by car east of Nashville. The observers from the Nashville Chapter make it a two-day project and spend the night near Sparta. Miss Mary Frazer and Mrs. A. W. Ganier were there also on the 26th and 27th—two days with no hawks. Several groups were out the weekend of Sept. 19 and 20, but no hawks were seen.

Mrs. Bell and Dr. O. C. Ault also reported the following totals of 5 short trips to Murray Lane, near Nashville, Sept. 28 to Oct. 9: Broad-winged Hawk, 15; Red-tailed, 8; Osprey, 1; Sharp-shinned, 2; Marsh, 1; Sparrow Hawk, 3.

50. James and Thomas W. Finucane manned the post in the morning, and Lorraine, Vicki, and Garland Ruth in the afternoon. We made the same arrangement also on Oct. 4 (item 64). After the hawks passed our knob, they were targets for several gunners located on the knob west of ours. We found an immature Red-shoulder, dead but not yet cold, hanging by its feet from a bush beside the road down the mountain. We untied the shoe lace from the hawk's feet and hurled the bird into the valley. In falling, the dead hawk executed an interesting spinning motion.

52. Paul Pardue and Bob Hamilton saw these 4 Broad-wings west of Knoxville around noon, part of a 3:00 a.m.-6:30 p.m. bird census.

53. The clouds were very heavy and kept the Clinch in shadow. Ridges far to the north and south were yellow with sunshine. There was a heavy cloud low in the valley to the east. The hawks observed came during periods when this murk was temporarily thinner. After 5, the sky

cleared. We saw 16 unidentified birds, which were so far out, that we thought they might be Black Vultures. Tommy and I left the lookout and got to the place where the cars were parked just in time for a complete and delicious meal provided by Mr. and Mrs. Robert Faucette, of Bristol.

54. Jack Brumit and Paul Senter counted 3000 hawks between noon and 4:00 p.m. at the White Rock Fire Tower, Sept. 27. These observers happened to be at the location on a project connected with their responsibilities as Tennessee Game and Fish Officers. Mr. Brumit had been alerted previously by Mr. Behrend, on our interest in the hawk migration. White Rock is about 30 miles south of the Clinch and less than 10 miles south of Elizabethton. Mr. Brumit informed the writer that the weather was fair at White Rock, with scattered clouds.

55. Sept. 27—This was the last of 8 days of observation by Mr. Behrend. The weather was bad where he was. The Broad-wings were all flying through a region of fair weather to north, which included White Rock but did not extend much further north. In view of the murk shrouding the Clinch east of the Mendota Fire Tower, one can understand why the flight over White Rock was so large. Mr. Behrend said at this time that he believed that there would be a large migration of Broad-wings late in the season, and this proved correct, although the statement was made before the news of the Broad-wing flight over White Rock.

59. Oct. 3—The designation 88 refers to Cub Pack 88, Kingsport: Mrs. Finucane, Mrs. Gates, Larry and Ralph Coughenour, George Crawford, Billy Finucane, Darryl Gates, David Jones, Danny McDonnell, and Pat Tokarz. They made this expedition despite advice that the Broad-wing migration had ended, for we had not received Jack Brumit's report. The observers reached the Mendota Fire Tower at 10:30 and left at 1:20 after counting 446 Broad-wings. As on other days at this location, there were no huge flights. The hawks flew by in little groups. The season's total for this station was about 4400 Broad-winged Hawks, but we believe that more than 10,000 could have been counted with continuous coverage.

60. These 35 Broad-wings over Bristol, reported by Judith Abbott and the 37 reported by Paul Pardue from Black Oak Ridge, which finally produced a good flight, indicate the magnitude of the late migration, supplementing the data in the previous note. On the following day we alerted Mrs. West by telephone, and five stations were active on Oct. 4. The total for the Oct. 3-4 weekend was 908 Broad-wings.

66. A few other reports were received, but not worked into this summary. Of particular interest was one from Mrs. Thomas C. Swindell, Knoxville, with data for August, September, and October. On Sept. 16, 400 Broad-wings were counted just north of Castleberry, Alabama. They were swirling in an atmospheric disturbance where a warm body of air was meeting a cold body of air. The Swindells drove northeast most of the remainder of the day and also again on the 17th and continued:

"Weather conditions were virtually the same for both days, with fewer clouds the second day. During that time there was hardly a mile, in the country, that we did not see hawks and Turkey Vultures. I would not dare even estimate the number of these, nor the species of hawks. We had to get home, and just could not keep on stopping along the road, much to my regret!"

HAWK OBSERVATIONS FALL OF 1959

No.	Date	Ob.	h.	Lookout	Alt	Wind	F	Sky	Shrp	Coop	Rdtl	Rdsh	Brdw	Mrsh	Ospr	Prgr	Kstr	Eagl	Other
1	9/6	PM	5	House Mt.	2000	0-3 W	8-9	Cr.	....	1	4	....	5	....	....	..	1	.....	.....
2		F	6	Mendota FT	3000	4-5 SE	6-9	HC	3	....	1	....	.....	1	....	..	....	.....	4
3	7	F	5	Mendota FT	..	4-6 SE	7-8	HC	....	....	.....	....	.....	....	....	..	....	.....	.....
4	12	P	-	Oak Ridge	950	1 W	7	SC	....	....	.....	....	12	....	....	..	....	.....	.....
5		PH	2	Black Oak R	1500	1 W	8	CC	....	1	.....	....	1	....	....	..	....	.....	.....
6		F	9	Mendota FT	..	7-0 NNE	6-9	Cy	2	4	.....	....	353	....	1	..	....	.....	8
7	13	CL	3	Elder Mt.	1880	.. ....	..	PC	....	....	1	....	412	....	2	..	....	1B	.....
8		W	-	see note	-	-	..	....	....	....	.....	....	26	....	....	..	....	....	.....
9		P	5	Black Oak R	..	1 W	8	....	....	....	.....	....	1	....	....	..	....	....	.....
10		ND	9	Rogrsvl FT	3000	3-4 NE	7	SC	....	1	8	....	465	....	....	..	2	1B	.....
11		F	8	Mendota FT		1-3 NE	7-8	PC	3	3	6	....	407	....	2	..	....	.....	3
12		E	-	Chestnut R	1500	.. ....	..	....	....	....	.....	....	14	....	....	..	....	.....	.....
13	14	P	-	Kodak	920	1 W	8	SC	....	....	.....	....	13	....	....	..	1	.....	.....
14	15	Sw	3	Mendota FT		0	7	.....	....	....	1	....	507	....	....	1	....	.....	.....
15	17	Z	4	Mendota FT		1 NW		Cr	3	5	3	....	16	....	....	..	....	.....	2
16	18	Sw	5	Mendota FT		4-5	6-7	Cr	1	....	2	....	387	....	....	1	....	.....	.....
17	19	WCL	6	Elder Mt.		1-6 S	6-8	Cy	....	....	1	1	176	....	....	..	....	.....	5
18		P	4	Black Oak R		3 S	8	Cy	....	....	.....	....	1	....	....	..	....	.....	.....
19		PH	5	Sharp R	1500	1 SSW		Cr	3	....	.....	1	95	....	....	..	1	.....	.....
20		D	8	Rogrsvl FT		2-4 W	6-7	SC	....	9	7	....	208	....	....	..	....	.....	.....
21		FRU	9	Mendota FT		0-9 SE	6-8	Cr	....	4	4	....	1184	....	1	..	....	.....	11
22	20	w	8	Elder Mt.		0-6 E	7	Cr	....	....	.....	....	842	....	3	..	....	1B	17
23		p	5	Sharp R		6 S	8	SC	....	1	1	1	44	4	1	..	....	.....	.....
24		o	8	House Mt.		3 S	8	SC	....	4	1	....	22	....	....	1	....	.....	.....
25		T	7	Grnger Co. F	2100	0-3 SE	6-8	CC	3	1	3	1	62	....	....	..	....	.....	.....
26		n	8	Rogrsvl FT		1-4 SE	7-8	HH	. .	6	9	....	478	....	1	..	....	1G1B	3
27		FS	8	Mendota FT		4-0 E	7-9	Cr	1	2	2	....	735	....	. ..	1	....	.....	.....
28		AK	9	McQueen FT	3885	4 E-W	7-8	Cy	....	....	.....	....	48	....	....	..	2	.....	8
29		RU	2	Bays Mt. FT	2397	0-2 N	7	SC	....	5	.....	....	....	....	3	..	....	.....	.....
30		V	3	Wat Dam Olk	2070	0-2 W	9	PC	.. .	....	.....	1	6	....	....	..	....	....	.....
31		B	7	Hump Mt Bld	5000	1-4 S	5-6	SC	1	1	4	....	2	2	....	..	....	.....	2

32	21	C	4	Brainrd Prk	688	3	SSE	8	SC	....	....	.....	3	75	....	....	..	....	.....	.....
33		DE	2	Green Co.		2	N	7	SC	....	1	.....	....	4	....	....	..	....	1G	.....
34		B	8	Holston Mt.	4150	0-3	N	6	SC	....	2	2	....	80	....	....	..	....	.....	.....
35	22	C	3	Brainrd Prk		3	SSE	7	SC	....	....	.....	1	25	....	....	..	....	.....	1
36		B	4	Buck R F	4298	3-4	N	6	SC	1	....	.....	....	9	....	....	..	....	.....	.....
37	23	C	3	Brainrd Prk		1-2	NW	8	SC	....	....	.....	....	5	....	....	..	....	.....	3
38		P	6	Sharp R		3	SE	7-9	CC	2	....	2	1	1	....	....	..	4	.....	.....
39		O	5	House Mt.		0-5	S	8	SC	....	....	2	....	.....	....	....	..	....	.....	.....
40		B	7	Beech Mt.	5522	1	N	6-7	SC	2	....	2	....	20	....	....	..	....	.....	1
41	24	C	5	Brainrd Prk		1-3	N	8	SC	....	....	.....	1	42	....	....	..	....	.....	9
42		O	5	Sharp R		0-5	SE	hot	SC	....	1	1	....	.....	....	....	..	....	.....	.....
43		88	4	Mendota FT		0	....	..	Cr	1	1	1	....	32	....	....	..	....	.....	1
44		B	7	Rich Mt.	4800	1-4	NNE	6	SC	1	....	1	....	10	....	....	..	....	.....	6
45		b	-	Bon Air		..	....	..	....	....	....	5	....	198	3	1	..	....	....	9
46	25	B	7	Hump Mt. Bld		4-5	SE	6-7	SC	....	....	3	....	1	1	....	..	....	.....	1
47	26	W	7	Elder Mt.		0-6	SSE	7-8	Cy	....	....	.....	....	1	3	....	..	....	.....	2
48		P	4	Sharp R		3	SE	8	O	....	....	1	1	.....	....	1	..	....	.....	.....
49		D	-	Rogrsvl FT		4	SW	..	Cy	.. ..	....	3	....	.....	....	....	..	....	.....	.....
50		FR	8	Mendota FT		3-5	NE	7-8	LC	....	3	7	1	42	1	1	1	....	.....	3
51		B	8	Holston Mt.		5-6	SE	6	SC	1	1	.....	....	.....	....	....	..	....	.....	.....
52	27	Ph	9	Knox Co.		0-3	SE	8	CO	....	....	.....	....	4	....	....	..	....	.....	.....
53		FR	8	Mendota FT		5-6	ESE	7	HC	....	....	18	1	1	....	1	1	....	.....	2
54		J	4	Wh Rock FT		..	....	..	SC	....	....	.....	1	3000	....	....	..	....	.....	.....
55		B	6	Hngng Rock	5237	2	SE	6	FR	3	....	1	....	.....	....	....	..	....	.....	.....
56		G	-	Kingston	800	..	....	..	....	1	....	.....	....	6	....	....	..	....	.....	.....
57	10/3	P	4	Roaring Spr	950	3	W	7-8	SC	....	....	.....	....	.....	1	....	..	1	.....	.....
58		P	6	Black Oak R		0-3	W	9	PC	....	....	.....	....	37	....	....	..	....	.....	.....
59		88	3	Mendota FT		1	....	hot	Cr	1	....	.....	....	446	....	....	..	....	.....	2
60		A	-	Bristol	1790	3-4	....	8	Cr	....	....	.....	....	35	....	....	..	....	.....	.....
61	4	WL	5	Elder Mt.		0-6	S	8-9	CO	3	....	.....	....	80	....	....	..	....	.....	12
62		P	7	Black Oak R		2-3	W	8-9	PC	....	....	.....	1	1	....	....	..	....	.....	.....
63		DN	7	Rogrsvl FT		2-4	S	7-9	HH	1	5	7	2	56	....	3	..	3	1G2B	2
64		RF	6	Mendota FT		1-3	E	8-9	SC	1	16	7	3	253	....	3	..	1	.....	6
65	11	P	4	House Mt.		3-4	W	7-8	PC	....	....	3	2	.....	....	....	..	....	.....	.....
66	19	X	-	.....		1-2	N	7-8	....	....	....	.....	....	12	....	....	..	....	.....	.....
	TOTALS		327		26				....	38	78	124	23	10998	16	24	6	16	3G6B	125

SKY CODE

Sky conditions in the language of the reports. CC—Cloudy to Clearing; CO—Complete Overcast; Cr—Clear; Cy—Cloudy; FR—Fog and Rain; HC—Heavy Clouds; HH—Heavy Haze; LC—Light Clouds; O—Overcast; PC—Partly Cloudy; SC—Scattered Clouds.

BEAUFORT WIND SCALE

0—Less than 1 knot; 1—1 to 3; 2—4 to 6; 3—7 to 10; 4—11 to 16; 5—17 to 21; 6—22 to 27; 7—28 to 33; 8—34 to 40; 9—41 to 47.

TEMPERATURE CODE

Figures given are degrees F. divided by 10 and rounded off to one figure.

KEY TO REPORTERS

A—Abbott, Bristol; B—Behrend, Elizabethton; C—Crownover, Chattanooga; D—Darnell, Greeneville; E—Grayson, Kingsport; F—Finucane, Kingsport; G—Garlinghouse, Knoxville; H—Highbaugh, Knoxville; J—Brumit, Elizabethton; K—Kennedy, Bristol; L—Lawson, Chattanooga; M—Mengel, Knoxville; P—Pardue, and Ph—Pardue and Hamilton, Knoxville; R—Ruth, Kingsport; S—Smith, Kingsport; Sw—Switzer, Kingsport; T—Tanner, Knoxville; U—Odom, Kingsport; V—Davidson, Elizabethton; W—West, Chattanooga; Z—Charlotte Finucane and Louise Weber, Kingsport; 88—Cub Scout Pack 88, Kingsport; X—Swindell. For b, n, o, p, and w, see "Notes."

THE SEASON

MEMPHIS.—An immature Bald Eagle was seen flying over Crump Stadium, during the UT-Ole Miss game, Nov. 14, by Mrs. Coffey and Mrs. Helen Dinkelspiel. Some of the late departures or stragglers were: Greater Yellowlegs, at the Penal Farm, 3 on Oct. 31 (Jim and Barbara Lovell, BC) and Nov. 3 (JLs); and 2 on Nov. 7 (BC); Least Sandpiper, 3, Dec. 4 (JLs); Dunlin or Red-backed, 1 on Oct. 31 (JLs, BC); and a Semipalmated Sandpiper on Nov. 7 (BC). The Lovells found a Spotted Sandpiper beyond West Junction, Dec. 17, 20, & 27 (Count); farther west (beyond "steam plant") were 43 Leasts on Dec. 13, 19, & 20 but none Dec. 27; 3 Leasts noted Nov. 22 (BC et al), US 72, at the Tenn.-Miss. line. Across the river in Crittenden County, Arkansas, 12 Leasts north of Marion, Jan. 31 (BC, Glynn Roehr), and 2 on Horseshoe Lake, Feb. 28 (TOS). This is more than the total of previous Least records at this season, disregarding Lonoke. The Spotted was the second (and second straight) winter record. A late Common Nighthawk passed over uptown, Oct. 15.

Small flocks only of Tree Swallows, noted except for the last date, Nov. 1, 1500 over Poplar Tree Lake in Shelby Forest S. P. (Alice Smith and Katheryn Paullus). On Dec. 17, at West Junction, the Lovells examined a male Rose-breasted Grosbeak closely for ten minutes; it was in summer plumage except for the buffy and streaked head and was our first winter record.

The unusual winter brought no unusual birds, reduced field work and results on those trips made. This was not a Red-breasted Nuthatch winter; the few seen were probably transients. However, one was seen Dec. 13, among Ark. Hwy 7 pines, Perry County, shortly before two Pine Siskins were recorded. At the Penal Farm there were the usual number of Western Meadowlarks (3 to 10) and occasional small flocks of Brewer's Blackbirds; Lapland Longspurs low except Dec. 20, 180. At Field 21 (now Mil-

lington municipal airfield but east of Woodstock) 100 Laplands seen Dec. 6; the species common only at Lonoke and abundant at Stuttgart air field. The Smith's Longspur only at the latter, 8 on Nov. 29 (BC, Earl Fuller), Hot Springs air field, 7 on Dec. 13, and 2, Lonoke area, Nov. 29, and again Dec. 26, but a mile farther north. The Sprague's similarly uncommon, one (different) Oct. 18 and Nov. 7 at the Penal Farm, Jan. 2, one at Yazoo City field and Jan. 3, 5 at Adams County Airport (Natchez); none at Tupelo or Clarksdale. In Arkansas, one, Dec. 26 near Lonoke and 9 at Hot Springs, Dec. 13.

For the first time since 1952, the Harris' Sparrow was missed on the Lonoke and the Memphis Counts. On Dec. 13, 8 at Hot Springs were my only ones of the winter, but Mrs. Charles Seahorn, Germantown, reports one or two at feeders on 5 dates, Dec. 4 thru Mar. 2. The Lovells, Germantown, had a male Dickcissel and two apparent females present Jan. 27-Feb. 2 (4th winter record at Memphis). The first Oregon Juncos recorded in our area were at Horseshoe Lake, Ark., Feb. 28 (BC, LC, AS, GR). Two males and a female, with about 50 Slate-coloreds, were repeatedly studied at 12 paces in bare cotton rows, from the car.

Spring arrivals: A Pectoral Sandpiper at the Penal Farm, Mar. 12, but no Golden Plovers to date there or across the river. A search for shorebirds at Reelfoot, Mar. 20, yielded only 3 Goldens, at Cate's Landing, north of Tiptonville. Mr. and Mrs. John K. Speed reported a male Purple Martin, Mar. 16, at their box. The season continues late while we hope for an immediate change.

BEN B. COFFEY, JR., 672 North Belvedere, Memphis 7, Tenn.

NASHVILLE.—It is hard to remember fall migrants when one is eagerly awaiting signs of spring in the midst of snow and ice. Nashville, like the rest of Tennessee, has had an unusually severe winter. Beginning in December, but with some respite the last of January and early February, we have been assailed with cold and record-breaking snows. (According to the Weather Bureau, every day since the 11th of February has been below normal in temperature, and snow has fallen 43 days since our first on Jan. 5th). The subsequent shortage of natural foods, has forced a shift of habitat on much of our bird population, and has brought disaster to some individuals, probably many more than we realize.

However, the movement in search of food, has brought pleasure and increased knowledge to many bird lovers, with unusual species at their feeding stations, increased numbers of rare visitors and old standbys.

To go back to the fall, though, H.E.P. reports some unusually late dates for Shore Birds at Bush's Lake:10-5&6, 1 Sanderling (second Nashville record); 10-8, 5 Golden Plovers; 10-10, 1 Common Gallinule; 11-6, 1 Pectoral Sandpiper; 11-20, 1 Least Sandpiper; 11-24, 2 Dunlin (Red-backed Sandpipers) (1 was reported on Nashv. Christmas Count of 1955); 11-6, 1 Semipalmated Sandpiper; 11-12, 1 Spotted Sandpiper. The following are new late fall dates for the Nashville area: 10-9, 1 Parula Warbler and 1 Yellow Warbler (dead at WSM TV Tower) (HEP); 10-14, Bush's Lake, 18 Tree Swallows and 2 Bank Swallows (HEP); 11-1, 2 Jays Sanctuary, 1 Redstart, (EB).

As was expected, fewer ducks arrived in the fall at both Bush's Lake and Radnor, but one or more of all species commonly found were recorded, a total of 19 species. 4 species with 96 birds were reported on the Christmas Count as compared with 10 species, 303 birds in 1958. Some few were

reported in January and February from Radnor (ARL) and Canvasbacks have wintered at Bush's Lake, 5-18 in number, but since 3-17 there seems to be a movement of migrants as additional species have been reported (JO, HEP).

During the heavy snows of February and March, Fox Sparrows, Purple Finches, Tree Sparrows, Red-breasted Nuthatches have been reported at feeders, in most cases being new experiencs for the reporters: 1 Tree Sparrow 4 days in March (feeding on grain and a mixture of suet, peanut butter and corn meal (OCA); 2 Tree Sparrows 1 day (fed on grain) (BHA); ARL reports 1 Tree Sparrow 3-1, 4 on 3-13 and at least 3 daily through 3-21 (none has been seen at her home before since 1936 when she banded 3—she has also banded 11 this year. Reports of Tree Sparrows at feeding stations of P.H. 3-4 and H.H. 3-10, have also come in. Red-breasted Nuthatch reports are as follows: 1-1, 1 at her feeder (ARL); 2-8, 1 (MC); John Ellis reports one at his home since the last of November. There has been no day when he was aware of its absence, and the feeder is so near the window, identity is easy.

There have been reports of Purple Finches all the winter, since the first 3, 10-18, but they have been reported widely since the snow made foraging difficult for them. ARL reports that from 3-8 through 3-21 she banded 66 individuals, altho in 29 years of banding she had previously trapped only 2. The communal roost on Old Hickory Blvd. described by ARL in Auk 75:475-476, 1958, is again being used by Purple Finches. Her report is "the first apparently, in the literature". This roost was used from Dec. 1st 1957 to May 1, 1958, 192 birds of this species being counted 1-9-58. At least one Brown Thrasher has wintered in Nashville (PH to ARL). This bird is fond of cooked oatmeal, and will come close to the house or even inside for food. Robins have been very scarce, probably because there are no hackberries. The usual Jan. influx did not materialize.

Two early spring arrivals have been reported: Pectoral Sandpiper (2) at Bush's Lake 3-16 (HEP) and Louisiana Waterthrush (1) 3-20 (CH, EB). A flock of Water Pipits (HEP) was seen feeding along the water's edge at Bush's Lake, when the snow on the ground was so deep they could not find food in the usual place.

The Bluebird is probably the species which suffers greatest decimation in this area in severe winters. Mrs. Laskey reports the following: Bluebird population was below normal in Warner Park in the nesting season of 1959. The birds were on territory when the terrible March 1960 weather prevailed—8 were found dead from February to March 7—one pair was seen alive that day—none on the 14 and 15. Presumably, practically all died or left the area.

MRS. W. F. BELL, 1617 Harding Place, Nashville.

LEBANON.—What of our season? Just an echo, probably, from the rest of you across the state—snow and more snow, with prolonged low temperatures! In January buds were swelling, some shrubs showing tints of green, the winter aconite a carpet of gold, and the birds were beginning to tune their voices. Then the snow began to fly, the wise old ground-hog dived into his den and most of us became shut-ins. But one joy is multiplied by persistent snow—that of feeding the birds and seeing them grow more and more friendly as they learn to depend on us for their daily fare.

My own great thrill has been the two Fox Sparrows who dared to come so near the house, and the 45-50 gorgeous Cardinals who have spent the days, from dawn to deep dusk, just outside my windows. How brilliant and lovely against the snow!

Loula Mae Sellars has a flock of forty-fifty Horned Larks which come into her yard frequently. One of our coldest mornings early in March, with fresh deep snow on the ground, there was a lone and very miserable looking Robin hopping around my yard. I saw him several times till after 1 p.m. when he disappeared, I hope for warmer climes.

But others of our number have reported visitors more unusual. Early on the morning of March 12th, Martha and Margaret Campbell watched as he devoured their suet, a Northern Three-toed Woodpecker *(Picoides tridactylus)** (Authenticated by Dixon Merritt). So far as I know this is the only one of this species ever seen here. On the same day, Dixon and Ruth Merritt had some early summer residents drop down onto their feeder. Some twenty Chipping Sparrows, evidently just arriving and plenty hungry, ate until near dusk. They were seen again on the two following days. Snow and ice were still covering the land.

Mary Wharton reports really **big** flocks of more than one hundred Cedar Waxwings among the berried shrubs in her yard, and several hundred noisy Redwings in a Chinquapin tree.

Even through the severe cold and snow the birds have not become discouraged. Very few days have gone by without my hearing notes from Chickadee, Titmouse, Cardinal, Mockingbird or Wren, which held the promise of Spring.

MRS. HENRY WATERS, Lebanon.

*Ed note: There is no other record for this species in the state. The 1957 A.O.U. Checklist gives the southern limit of its winter range, Southern Wisconsin, Michigan, Southern Ontario, Long Island and Massachusetts.

COOKEVILLE.—The simplest description for the season is snow, SNOW, S N O W!!! Forty-four inches, most of it since March 1, is the official record. (Crossville had 63, only 40 miles away.) This leads to a pre-snow, snow, and post-snow report.

Pre-snow was not so bad. Most of January, through Feb. 10, was about as usual, perhaps a trifle milder than last winter. During this period several "firsts" were recorded, ie. firsts for the observers in question: 3 Purple Finches, 2 Myrtle Warblers, 1 Carolina Wren (SMcG.; P.H.) Other birds, except for Starlings, were the common winter residents. Starlings were much more numerous than last year and have remained so through the **two** later periods.

Snow was the worst on record, the heaviest single fall was eight inches on the level. This long-lasting cover drove many birds to hunt out even our less-frequented feeders. **Firsts** for each observer, for the winter at least, were: Sparrows, Song (BC), Field (PH), Fox (McG); Bobwhites, one covey reported dead, two coveys (CH and LS) were seen feeding during and after the snow; two (PH) doves and seven where only two (LS) are usually seen (Ten were seen in a nearby thicket, not at feeding stations.); Brown Thrashers rather consistent feeders after Mar. 8 (PH, SMcG); Brown Creepers and Nuthatches appeared consistently (SMcG); more woodpeckers, birds and species, than usual (McG); three pairs of Evening Grosbeak, REAL FIRSTS

(BC); Purple Finches, one as high as four pairs (McG, PH, GW, CH, LS). Several observers report seeing fewer House Sparrows, and more Cardinals than usual **during** and **after** the big snow.

Post-snow. It's really **after,** one rainy night (3-14) removed most of the snow. Since then many birds, habitual feeders during the snow, have not broken the habit. The White-throats, Thrashers, Cardinals, an occasional Mockingbird, Blue Jay or Robin, and a host of Starlings, get ahead of the Chickadees, IF we aren't on guard. Juncos (McG) were even more numerous after melting was well along. Very few Grackles were seen on the ground during the snow, but they are almost as numerous as Starlings after melting is well along (PH).

On Mar. 13, on a Sunday afternoon ramble, these were seen on Tech. Campus—1 Robin, 1 Meadowlark, 1 White-throat, 3 House Sparrows, 7 Starlings; in a thicket around a natural drain—50 Grackles and 10 Doves. One couple (McG) report a total of 23 species in their "back yard" since Jan. 1, 1960.

While on a trip south and west out of the state, but in "season", numerous Belted Kingfishers were seen along swamp drains and other water birds which were not identified so easily. The most abundant bird by far in north-central Texas was the Western Meadowlark. Next in number were the Doves, some of which kept dropping down in front of the car in snow ruts, the only bare places on which to alight. There were many firsts on this trip, but NOT in Tennessee.

P. L. HOLLISTER, Biol., Tenn. Tech.

CHATTANOOGA.—On the assumption that someone else has described the weather conditions over the area for the past season, and, particularly since February 13, I am refraining from summarizing weather information.

The big news in this area is the enormous number of ducks that arrived approximately March 8, estimated to be 5,000. Probably 75% are Redheads, the balance divided between American Widgeon, Ring-necked, Scaup, a few Canvasbacks, and at least 50 Common Goldeneyes. The Redheads in particular are busy eating shad. This is easy to see because many of the ducks are close to shore.

A flock of approximately 2,000 Coots are in the river just below the city where food conditions have apparently been favorable all winter. None are being seen on Chickamauga Lake above the city.

The first Pectoral Sandpiper (1) appeared on 3-13, 9 days earlier than previous early date. Least Sandpipers have continued to be winter residents since this fact was first established in 1957.

A Great Horned Owl was seen hunting in the daytime by a resident of Lookout Mountain.

Phoebe records are scarce again this winter. The first Purple Martin was reported on February 29 by G. C. Dykes, a nonmember who has a large, well-established colony in the city.

During heavy snow when only paved areas were clear, Hermit Thrushes, Fox Sparrows, and White-throats were frequently seen feeding in large open areas and roadsides. This was observed by Rock L. Comstock, Jr., in Chickamauga Park.

Cedar Waxwings landed on my feeding shelf, two stories above the ground, but left immediately because there was no appropriate food.

This has been a big year for Evening Grosbeaks here. There are 6 known locations on Signal Mountain, 2 on Lookout Mountain, and 2 in the White Oak section of the city. Undoubtedly, there are many other unreported. The first individual was seen by Mrs. A. P. Maness in Brainerd section in December. The next report came when they arrived in numbers at the home of Gladys Conner, a chapter member on 1-22. A detailed report will be submitted for publication at the end of the season when the last date has been established.

Everybody is covered up with Purple Finches. Although I have never had more than 30 at one time, it appears that the individuals comprising the flock are in a constant state of change. I have seen 1 female (?) with a band, 1 male with a band, 1 female (?) and 1 male with extensive white in the wings, but none of these has been seen more than once. Another member has reported two birds showing considerable yellow. At this date, 3-18, many are undergoing plumage changes.

A Pine-woods Sparrow has been seen several times since 3-9, at his home, by Nat Halverson. Previous earliest date is 3-30.

A Tree Sparrow seen on 2-28 by Carroll Barr (Mrs. T. S. Barr) is an addition to the area list. Details are in a separate article.

MRS. E. M. WEST, 2914 Haywood Ave., Apt. 1-D, Chattanooga, Tenn.

KNOXVILLE.—There were, in this area, only a few unusual records of birds during the late fall and early winter seasons. A Red-throated Loon seen on Loudon Lake by J. B. Owen and R. B. Hamilton on November 6, 1959, was the first recorded for Knox County; it apparently did not linger because it could not be found in the area on the following day. Unusually late migrants were two Double-crested Cormorants on Dec. 4 and again on Dec. 11 and two Common Egrets on Dec. 4. Contrarily, two Common Goldeneyes on Dec. 4 and again on Dec. 11 were the earliest we have recorded in this area. Ducks have been scarce all winter.

A Common Loon seen on March 5 by J. C. Howell was the earliest we have had in the spring. On March 16 a Woodcock was seen and heard performing its evening flight song a few miles south of Knoxville by J. T. Tanner; this bird is rarely seen in Knox County. A Tree Sparrow, the first recorded for Knox County, had visited a feeding station in the yard of Miss Beth Lacey for a few days before its identity was confirmed by J. T. Tanner on March 17.

The big events of the winter were the series of heavy snowfalls, surpassing all previous winter records with a total fall of about 55 inches by mid-March. The first heavy snow came on January 6, but this did not stay long on the ground. The next heavy fall came on March 2 and more followed to keep the ground covered in most places for more than ten days. The coldest night during this period was 5° F. Trees were covered with ice for from two to four days. Feeding stations were crowded, many people put out food who ordinarily do not, and in some places the supply of scratch feed was exhausted. Although it is now too early to be sure, it appears that the weather caused considerable mortality. Flocks appearing at some feeding stations dwindled during the period. Titmice especially seemed scarce. Reports of dead Robins were received from several people.

The most unusual birds appearing in Knoxville during the winter were Evening Grosbeaks. Mrs. R. A. Monroe had received reports of Grosbeaks

for several days before February 17 when the first one appeared at her feeder; now, March 15, she has seven, all females, coming there. In addition, she has heard from at least twelve different people of Grosbeaks visiting their yards. More Fox Sparrows have been reported than usual, probably because they are coming in to feeders.

Mrs. E. E. Overton saw a single Lapland Longspur at Oak Ridge on March 11, observing it at close range as it fed on the ground outside her office window. This may be the first record of this species for East Tennessee. Magpies, presumably Black-billed Magpies, have been seen in the Burlington and Sequoyah Hills sections of Knoxville. They are assumed to be birds that have escaped from captivity, but they have survived as free birds for some time.

JAMES T. TANNER, University of Tennessee, Knoxville.

GREENEVILLE.—During the fall and winter this area received above normal rainfall and more snow than usual. Reported on Oct. 22 a Pine Warbler, and late in the afternoon a flight of 70 Turkey Vultures traveling fast. On Nov. 11 a Lesser Yellowlegs was heard. The season's first flock of Horned Larks were observed Nov. 22 and two pair of Winter Wrens, one individual singing, reported by the Neviuses.

During Nov. we had 5.35 in. rainfall—2.92 in. above normal, which may account for the unusual number of Snipes observed after Nov. 23 on the Nevius farm. On Feb. 15 three were feeding in the barnyard while the farm tractor was being used.

Noted Feb. 7 and again the 28th one Evening Grosbeak in the yard of the Spees' home. March 9, 10 and 11 Wilma Irvine reported three Evening Grosbeaks feeding in her yard.

During the months of Feb. and March large numbers of Purple Finches have been reported from several areas of Greene county. They have been so conspicuous they have attracted the attention of an increasing number of people—many of whom are usually counted among the "bird-watchers." Club members often receive inquiries about the "rosy-red birds, larger than a sparrow, and not a Cardinal." Feeding flocks of 37 and about 100 were reported by White and Clemens. Several Purple Finches make use of window feeder at Darnells. The Clinards report Purple Finches, Robins, large flocks of Cedar Waxwings, 12 Bluebirds in the snow, along with the regular winter residents. Two White-breasted Nuthatches feel at home on the Tusculum College campus. (D. Clinard)

Very large flocks of Robins helped other birds consume about a hundred lbs. of food in Clemens' yard during the recent severe snow storms. Also reported by the Clemens—2 Savannah Sparrows, 7 Kingfishers in a group, Sapsuckers, Meadowlarks, White-crowned Sparrows and Flickers in greater numbers than usual.

A pair of Myrtle Warblers were observed on the window feeder several times during the recent snows. (E.D.) A Fox Sparrow joined the White-crowned, White-throated, Song and Field Sparrows feeding in Darnells yard Feb. 13 and again on Mar. 11. (perhaps in between those dates and we just weren't at home to see it). Myrtle Warblers and a Fox Sparrow were feeding with other birds in Helen White's yard March 14 and 15.

Four Oregon Juncos were reported Mar. 10. More in Round Table Notes.

A bit on the unusual side—Mar. 3 a male House Sparrow with an icy straw in his mouth sitting a long time in the snow—finally dropped the straw—several days later one was seen carrying nesting material to a gutter at the Nevius home. Mar. 17—a Dove sitting on the nest—but no eggs as yet. Nevius.

Of special note—the Purple Martins have not returned yet and no Chipping Sparrows have been seen—both are late according to past dates.

MRS. CHESTER B. DARNELL, Route 4, Greeneville, Tenn.

KINGSPORT.—The winter of 1959-60 was not especially noteworthy until the snow which covered the ground most of the first three weeks of March. During this unusual time many Kingsport residents kept bird feeders. Kingsport Bird Club members reported Pileated Woodpeckers, Myrtle Warblers, Purple Finches, Chipping Sparrows, and Fox Sparrows as regular boarders. Fox Sparrows appear on our club records in very few years.

In general, the winter season was similar to that of 1957-58. Our fall migration of shore birds was a blank. We had very few records of water birds in contrast to last winter. No Red-throated Loons or Horned Grebe were reported. Pied-billed Grebe were scarce. Ducks were hard to find. As exceptions to the water bird scarcity, we had a very large colony of Great Blue Herons near Meredith's Boat Dock on Boone Lake, and Canvasback ducks were abundant. We recorded a flock of one hundred early in November on Boone Lake, and over three hundred again on Boone early in March. Scarce species among land birds were Black Vultures, Nuthatches and Towhees. We recorded Brown Creepers and White-crowned Sparrows only on the Christmas census, and have no records of Phoebes from the first week of November through the middle of March.

Abundant were Robins which had wintered, and large flocks that came the last week of February just before the snows. Enormous flocks of Starlings and Grackles continued with us. They were augmented by Red-winged Blackbirds the last of February.

ANN HARNEY SWITZER.

ELIZABETHTON.—The winter was fairly mild until the morning of 2-13 when during the preceding night about 10" of snow had fallen. Snow has been visible at higher elevations ever since. Total snow fall for the winter in Elizabethton has been in excess of 45" while on top of Roan Mountain it has exceeded 60". For the past six weeks the temperature has averaged several degrees below normal. Birds patronizing feeding stations have been more numerous than any time during the past fifteen years. Some concrete idea of the birds visiting my yard can be had from the number of birds caught in my traps and banded (263) from 1-1 to 3-20-60. In addition to these there were large flocks of Cedar Waxwings and Grackles as well as several other species observed but which did not enter the traps. During the same period there were well over 100 repeats (birds banded within the past six months) and 15 returns (birds banded more than six months ago). The oldest return was a male White-throated Sparrow, banded 12-24-52 and recaptured last on 2-14-60, making the bird more than eight years old, because it was an adult when banded. An immature White-crowned Sparrow banded 1-15-55 returned on 2-14-60.

A rather close check has been made on Watauga and Boone Lakes during the winter. All records of waterfowl listed subsequently are for Watauga Lake unless otherwise indicated. Horned Grebe (25) 1-31 with smaller numbers almost every week since and one coming into spring plumage 3-20; Pied-billed Grebe (14) each 1-31 and 2-6, Boone (17) 2-6; Great Blue Heron (80) Boone 1-31, (10) 2-6, and (4) 3-20. Why so many in one flock so early? They must have moved on because a rather thorough check the following week and subsequently has turned up only a few. Canada Goose (14) 3-20; Mallards all winter (75 max.) 2-21, (60) 3-20; Black Duck (220 max.) 1-31, (100) 3-20; American Widgeon (6) 1-24, (30) 2-21, (18) 3-20; Pintail (5) 1-24 (earliest record by two weeks), (30) 2-21, (8) 3-20; Green-winged Teal (1) 3-20; Blue-winged Teal (1) County Farm 1-24 (earliest record by 17 days); Shoveler (4) 3-20; Wood Duck (1) 2-7 Wagner's Island, (7) 3-20; Redhead (8) 1-24, (180) 3-13, (220) 3-20 Boone (300) 3-13, (900) 3-20; Ring-necked Duck (11) 1-24, (52) 3-20; Canvasback (3) 3-6, (5) 3-20; Lesser Scaup (35) 1-24; (27) 3-20; Common Goldeneye (15) 1-24, (18) 3-20 Boone (50) 2-6, (15) 2-21, (20) 3-20; Bufflehead (17) Wilbur Lake—all winter; Hooded Merganser (5) 1-24, (12) 1-31, 2-7 and 2-21, (2) 3-20; Red-breasted Merganser (1) 1-24; Herring Gull (3) 3-6, (4) 3-20 Boone (5) 3-20; Ring-billed Gull (7) 3-6, (10) 3-12, (12) 3-20; Boone (12) 1-31, (20) 2-6, (45) 3-20.

Phoebes scarce, reported 1-24 and 2-7 only; White-breasted Nuthatch (1) 1-24; Red-breasted Nuthatch (1) 2-7 and (1) 2-21; Brown Creeper (1) 1-20 and (1) 2-21; Hermit Thrush (1) 2-16, the only report for this winter and none last; Bluebirds, scarce—little comeback from winter before last. Cedar Waxwing—fairly common in comparison to last winter. Myrtle Warbler—quite common—89 banded between 1-1 and 3-20; Redwinged Blackbird—first (4) 2-21; Common Grackles—a few wintered, first flock (20) 3-12; Cardinals—40 banded since 1-1; Evening Grosbeak—(9) 1-22, (4) 2-14, (11) 2-21 and (50) 3-22; Purple Finches—abundant in comparison to last winter—66 banded between 2-14 and 3-20.

LEE R. HERNDON, Elizabethton.

ROUND TABLE NOTES

SANDHILL CRANE WINTERING IN KNOX COUNTY.—Late in the afternoon of November 13, 1959, Bob Hamilton and I, while looking for waterfowl at Andrew Jackson (Dead Horse) Lake, found a Sandhill Crane *(Grus canadensis)* standing on a mud flat at the edge of the water. After we had examined it carefully with 8 x 40 binoculars, it flew away with its neck characteristically extended.

We revisited the lake at weekly intervals, at about the same time, and always found the crane there until late December. Apparently it had been spending the nights at the lake until the water level rose and covered the mud flat. I was not able to find it for the winter census.

Farmers in the area continued to see it and we learned that it was spending much of the time on a farm fronting on Kingston Pike, south of the lake. Knoxville Chapter members included the area in a field trip February 28 and found the crane quite near the highway.

The record amount of snow in recent weeks has made the crane most conspicuous as it probes the ground in easy view of passing cars. Fortunately, the landowners in the area recognize it as a rare bird and are protecting it from hunters.

J. F. Dooley, whose farm is the crane's favorite feeding ground, has agreed to keep watch and let me know the date it leaves. He believes it had been in the area two weeks or more when Hamilton and I first found it on November 13.

J. B. OWEN, 2722 Fairview St., Knoxville 17, Tenn.

SANDHILL CRANES NEAR CHATTANOOGA.—While studying the extraordinarily large numbers of ducks on Harrison Bay the afternoon of March 14, we noticed a good sized flock of very large birds flying with heavy wing beats over the ridge and across the lake. When we put our binoculars and scope on them, we could easily see their long outstretched neck and trailing legs. This plus their loud honking clatter made the identification as Sandhill Cranes *(Grus canadensis)* a very simple matter. They were flying in a large V and the total number was sixty-seven.

On the following day near sunset, Benton Basham, and Nat Halverson were checking at Long Savannah when ten more cranes flew over. Up the road a ways they came upon another flock of thirty-seven flying very low making a total for the second day of forty-seven.

As different members of the Chattanooga Club were notified they went out to the area, but no more were reported.

JAMES A. TUCKER, Collegedale, Box 1019.

OREGON JUNCOS NEAR GREENEVILLE.—March 10, Mrs. White received a call from a friend stating that she had an oregon Junco *(Junco oreganus)* feeding with the Slate-colored Juncos in her yard. The Clinards and Mrs. White observed the bird at different times. They noted it was distinctly different from the Slate-coloreds—the sharp separation between the black head and the brownish back, the pinkish sides and the smaller size. About that same time a bird-lover, living near Baileyton, called Mrs. White saying that she had 3 Oregon Juncos feeding with the Slate-colored Juncos on her front walk where she puts out feed for the birds during snowy weather. They stayed several days, but were gone by the time the roads and opportunity made it possible to check on them.

MRS. CHESTER B. DARNELL, Route 4, Greeneville, Tenn.

IN MEMORIAM

JAMES A. ROBINS.—At the time of his death, on Sept. 29, 1959, Mr. Robins was the oldest member of the T.O.S., being well into his 92nd year. He was born at Guntown, in northeast Mississippi, on February 3, 1868 and as a young man attended and graduated from Vanderbilt University in 1892. He became a teacher and for many years was headmaster for McTyeire School for Boys at McKenzie, Tenn. With the close of that institution, in the early 1930s, he became a member of the Vanderbilt faculty, assigned to teaching Latin and Greek. On retiring from the faculty, in 1941, he gave time to tutoring members of the athletic teams to help them keep up with their studies. He joined the T.O.S. while at McKenzie in 1921, and was a vice-president a few years later. On coming to Nashville, he became a regular attendant at chapter meetings and was an ardent lister of the birds he observed afield. During these years he contributed several short notes to THE MIGRANT, and always assisted with the Christmas census. "Mister Jim", as he was called by his younger friends was remarkably well preserved even in his later years and attributed this to his habit of regularly taking bird-walks whenever the weather permitted.

A. F. GANIER, Curator.

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GUEST EDITORIAL

ICH DIEN

This is an adjunct to Mrs. Adele H. West's excellent editorial in the December MIGRANT.

Everything that Mrs. West said is here endorsed. But T.O.S. members should make their interests known to and understood by not only those "in a position to be useful to us", but, also, those to whom we may be useful. This classification embraces the general public, particularly, that portion of it composed of readers of newspapers.

Most people are, if only passively, interested in birds and the larger part of those not now interested would be so if they were informed. Every chapter of the T.O.S. ought to make not merely its interests, but its doings, known to the newspapers of its area—and to correspondents, in that area, of the metropolitan press. This applies not so much to notices of time and place of meetings, speakers and the like. By publishing such notices the newspaper serves us, not we it. Newspapers are interested in most of the things that interest us in our roundtable discussions, and such things should be reported to the newspapers from every T.O.S. chapter.

True, not all of us are capable of writing in the style that the newspaper demands, but all of us are capable of giving the facts to the person on the newspaper staff who can write them—and then all of us can refrain from carping criticism if the facts are not presented with quite the scientific accuracy to which we are accustomed.

More of us should be capable of writing in popular style concerning things of popular interest. And, perhaps, that is a goal which we should set ourselves in all the chapters.

This is not an overly altruistic view. We need—and shall need—the newspapers at least as much as they need us. When the newspapers have learned to look to us for news and feature material of interest to their readers, they will be ready to help us when we have need—as we have had in the past and as we shall have again many times. And all the people whom we have informed through the newspapers will be ready to help us.

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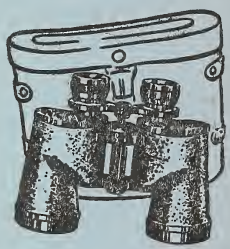

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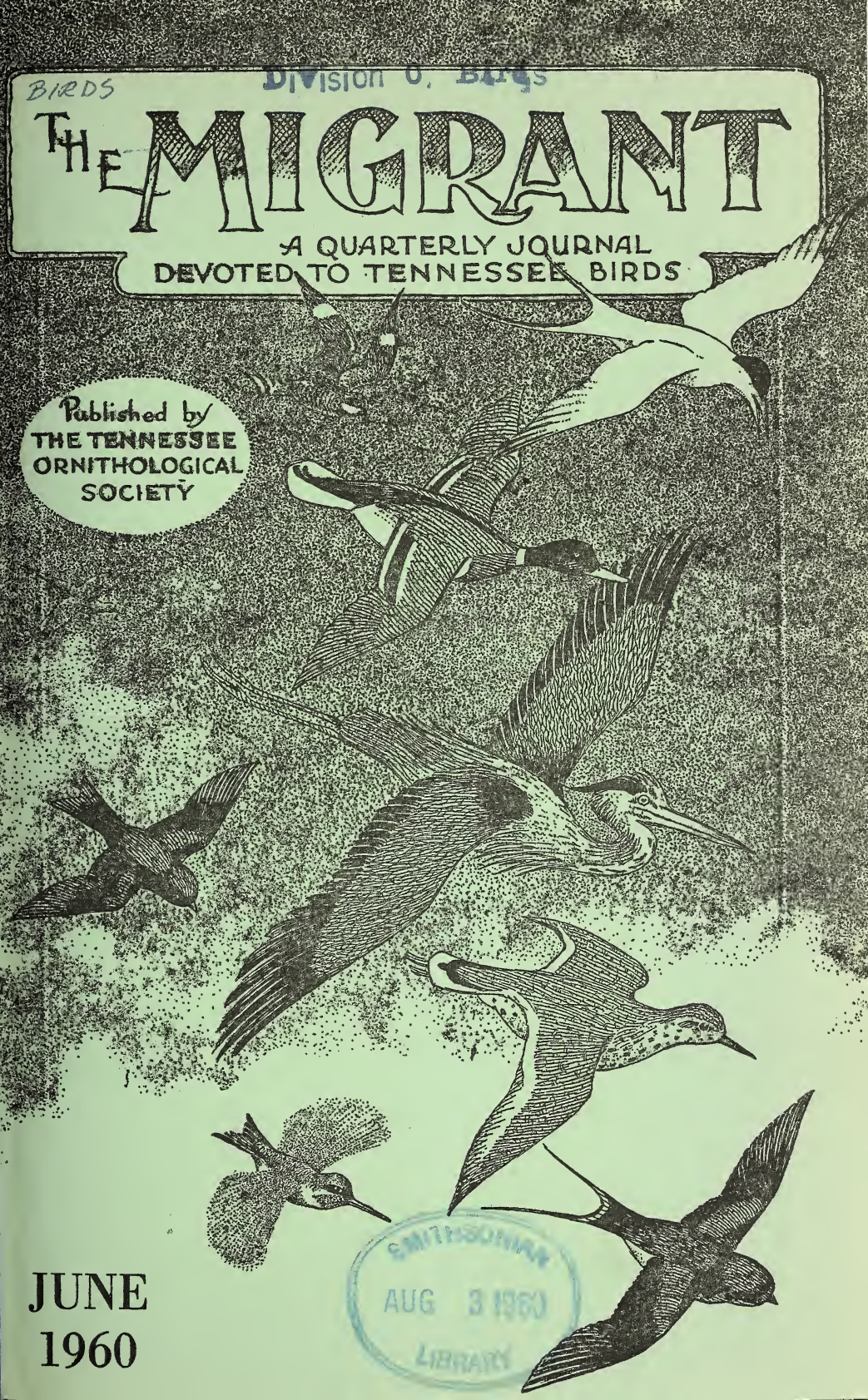

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PESTICIDES AND WILDLIFE IN TENNESSEE

By SUMNER A. DOW

INTRODUCTION

For the past two years much interest has been voiced regarding chemical pesticide programs and the effects of dissemination on native wild plants and animals. Much of the published information concerning Tennessee pest control projects and the hazards of that work has been reported by laymen. The following discussion is an attempt to shed some light on the problem and offer some possible approaches to handling future wildlife-pesticide cases in Tennessee.

Since the Second World War, many new chemicals have been developed and found useful in the control of certain animal and plant species. For the protection of our public health, preservation of forest and agricultural economies or simply to gain relief from noxous insects, the control of certain species will probably always be necessary. In 1958 the chemical industry produced approximately one billion pounds of compounds used in the broad field of plant and animal control. It seems reasonable to expect a manifold expansion both in the production and the use of pesticides in the next decade. Along with this expected growth, we may expect to see more efficient chemicals developed. Some companies already have made impressive claims concerning the potent efficiency of their pesticide products. Recent studies have shown that some of these chemicals are even more potent than the companies claimed. At least one synthetic compound, Heptochlor, has been known to undergo a chemical change after application and in its new form (an epoxide) become 2 to 4 times as toxic as when first applied.

The recent publicity concerning contaminated cranberries is an example of the enforcement of the regulations provided for by the Food, Drug, and Cosmetic Act. If a trace of certain economic poisons can be considered dangerous and unfit for human consumption then it is easy to understand why conservationists have become alarmed at the possible effects on wildlife of applications of synthetic toxicants each year exceeding five hundred million pounds. It is an established fact that applications of pesticides sometimes have adverse effects on wildlife. On study areas within the five hundred thousand acres treated for the control of fire ants in the South, heavy losses of birds were noted and on one area, aquatic life, mammals and birds were found dead or dying. Subsequent analysis of tissues and stomach contents showed the presence of sufficient toxic material to have caused death.

Even though insecticides and rodenticides have been in common use for more than sixty years, public concern over the use of these pesticides was not widespread until after World War II. Most State Game and Fish laws indicate that law makers recognized the hazards accompanying animal con-

SMITHSONIAN INSTITUTION AUG 1

trol methods by the use of poisons. Strychnine, arsenic, and other poisons are specifically prohibited as means of controlling, undesirable species. The reasons for such legislation are many and varied. In some instances unwarranted public fear of killing galliform birds such as pheasants and quail with pest bait containing strychnine was one of the reasons for early prohibitive regulations. Recent research shows that gallinaceous birds are practically immune to this alkaloid. Pigeons and doves on the other hand are quite sensitive to strychnine. In view of this, it seems that some of our laws were prompted more by opinions than factual information. However, the effect has been beneficial in that the methods and chemicals in use today have resulted from a mass of research data promoted by public opinion.

DDT was one of the first compounds to be used widely. Under certain conditions it is extremely toxic to fish and aquatic invertebrates. This fact was quickly recognized and extensive research was carried out by the U. S. Fish and Wildlife Service, Public Health Service and the Department of Agriculture. Tests have shown that, although it is unlikely that most wild birds are acutely affected by direct contact with DDT, they are at times drastically affected by having their food supply reduced, contaminated, or eliminated locally. The ecological impact of a contaminated or broken food chain sometimes has far reaching effects.

Hunt and Bischoff obtained the following conclusive results in a study of a lake in California which was treated for the control of gnats. The chemical used was TDE or DDD a compound closely related to DDT but considerably less toxic to fish.

(a) All fish, bird, and frog samples analyzed contained DDD.

(b) The amount of DDD found in all flesh samples exceeded the specific rate of dilution of active insecticide in the lake water on a p.p.m. basis. (one part per fifty million was the treatment rate).

(c) Flesh samples of Largemouth bass, *(Micropterus salmoides)* and Sacramento blackfish, *(Orthodon microlepidotus)* hatched between seven and nine months after the last DDD application contained 22 to 25 p.p.m. and 7 to 9 p.p.m. of DDD respectively.

(d) All areas of the lake contained DDD contaminated fish. It is of interest to note that all fish appeared to be healthy.

The same workers also had circumstantial evidence that all Grebe, *(Aechmophorus occidentalis)* losses occuring after the DDD applications were caused by chronic DDD poisoning. One hundred grebes were found dead in 1954 and another 75 were picked up in 1957.

As early as 1947 some insects appeared to have become immune to DDT. Pest resistance to control measures has stimulated research for new compounds. This progressive immunity has also encouraged proper use of materials and methods because of the cost and inefficiency of subsequent treatments.

Today the general public accepts the use of synthetic chemicals as one of the most economical methods for pest control. This is evidenced by the large volume of such materials currently being sold. It is believed, however, that the public has become complacent in its regard for economic poisons. This is evidenced by a recent report from the Wildlife Management Institute.

> "Pilots and crews working for the agricultural aircraft industry in California have more disabling injuries from pesticides than any other single cause. Economic poisons account for almost one-half of the reported injuries."

USE OF AGRICULTURAL CHEMICALS IN TENNESSEE

Most of the people in Tennessee who use pesticides do not have the training or facilities for testing the chemicals for efficiency or toxicity. In 1910 the federal pesticide act was passed and in 1951 Tennessee adopted the Uniform State Pesticide Act. Although most users are not aware of the specific act they do realize that they receive protection from its provisions. Essentially the laws regulate the marketing of economic poisons. Most important of the provisions are those specifying registration, standardizing, labeling, directions for use and the regulation of the sale and possession of specific toxic materials.

Realizing that reliance can be placed on the information printed on the container, few people today deem it necessary to employ professional exterminators for the control of farm and home pests. This situation makes difficult an accurate accounting of the total amount of pesticides used in Tennessee. An indication, however, is available when it is known that in the United States approximately one billion pounds of commercial pesticides are being produced annually, and there are more than four hundred and fifty companies registered with the Tennessee Division of Foods, Drugs, and Dairies that manufacture, pack, sell, distribute or ship economic poisons in Tennessee.

In Tennessee during the past ten years a total of approximately 15,000 acres has been treated for the control of the White fringed beetle and the Japanese beetle. This work has been supervised by the Tennessee Division of Plant Industry. Only 2 aerial applications have been made, and in rural areas where wildlife populations might be affected, the areas have been relatively small, usually including less than five hundred acres. The following list shows the location and year or years during which the applications were made:

County — Location	No. Acres Treated	Inclusive Dates
Cocke — Newport	50	1956-58
Gibson — Milan	155	1959-
Hamilton — East of Chattanooga	165	1949-51
Hardeman — Bolivar	441	1955-59
Haywood — Brownsville	138	1956-
Henderson — Lexington	160	1958-
Henry — Paris	308	1957-
Jefferson — Chestnut Hill	300	1955-56
Johnson — Mountain City	1,000	1955-57
Butler	1,000	1958-
Knox — Knoxville	1,100	1958-
Madison — Jackson	170	1956-58
McNairy — Milledgeville	4	1958-
Monroe — Tellico Plains	60	1958-
Sevier — Sevierville	25	1957-58
Shelby — Cordova	620	1950-51
Memphis	5,538	1950-59
Millington	3,222	1956-57
Sullivan — Bristol	500	1958-
Tipton — Mason	29	1952-55
Ried Farm	40	1957-
TOTAL TREATED ACRES	14,935	

At the Knoxville, Butler and Mountain City locations in 1958, Game and Fish Biologists made field checks in an attempt to evaluate the effects of granular dieldrin on wildlife. Bird and small mammal censuses were taken prior to the first application and each area was carefully checked for dead or dying animals during and immediately after the insecticide was applied. A later census was taken on each area and a sample of the small mammals living in each area was taken by trapping. The primary purpose of this work was to acquaint personnel of both State agencies with the pesticide-wildlife problem in order that future efforts of both agencies might be handled cooperatively. Field examinations would also enable the Game and Fish Commission to record first hand any wildlife losses that might occur. No wildlife losses have been found on the three study areas; however, this work is being continued and periodic samples of small mammals from the areas have been trapped by Commission biologists and are being analyzed for accumulations of Dieldrin by the Patuxent Wildlife Laboratory.

Since the first meeting, the Division of Plant Industry has provided the Commission with a complete ten year record of all control work accomplished under its direction. This record includes maps of areas treated complete with dates, materials used, and methods of application. Currently the Division provides similar information to the Commission before each control project is begun. Preliminary field work on the three East Tennessee areas indicates that the two agencies can easily work together to insure that if wildlife losses occur as a result of the insect control program handled by the Division of Plant Industry, the Game and Fish Commission will be on hand to properly record and report the results and to take whatever steps possible in the future to eliminate the conditions causing mortality.

WILDLIFE LOSSES IN TENNESSEE

Wildlife technicians have made cursory inspections of several insecticidal treatment sites in Tennessee during the past decade. An accurate measurement of losses of beneficial species and the conditions under which losses occured has not been determined. First hand reports are seldom received in time for technicians to collect useable specimens in numbers sufficient for providing data for population analysis. Typical cases supply just enough data to illustrate what, where and probably how the loss occured.

One handicap facing the biologist is the rapid disappearance of small birds and mammals after death. Healthy animals killed accidently are commonly seen along highways and around human habitation, but those dying less suddenly such as from old age or poisoning are seldom seen. Carnivores, scavengers and lower forms of life are quick to destroy the identity of a dead or dying individual. For this reason many pesticide victims are never recorded or cannot be recovered.

The Bureau of Plant Industry has cooperated in full measure by supplying the Game and Fish Commission with all facts concerning control projects under their jurisdiction. Wildlife losses to date on these areas have not occured or have been so slight as to escape detection. Of course, these projects are well organized and methods and materials are applied by professionals who are aware of the importance of proper handling and applications of potentially hazardous chemicals.

Critical ecological studies of areas to be treated and those undergoing treatment would provide much needed data but research of this type usually lacks public support until after a biological catastrophe occurs and is dramatically brought to public attention.

The significance of wildlife mortality caused by economic poisons takes on many different meanings. To those conservationists who love all wild things and evaluate species aesthetically, all types of mortality are significant. Emotionally the hunting and fishing public view the loss of any game species with alarm. On the other hand and entirely within reason, the agriculture and forest industries tend to consider the loss of non-commercial species in about the same light as a gardener considers weeds — Everyone shares that feeling in some way by recognizing that wild plants and animals take on different values depending on where they are. To the rice and lettuce farmers of California certain species of ducks are pests and in some cases become a serious economic hazard to their livelihood. Almost any plant or animal may become involved in man's activities at certain times and places and create problems necessitating some type of control. Few people question the economic importance of damage done by pests or the need for some control measures. Any evaluation of the accidental losses to wildlife incurred during pest control operations must be made realistically. The loss of a few individuals from a population probably is not significant in an abundant species that has a high population turnover. Similarly there is good evidence that losses to certain game populations from hunting are not significant to the welfare of that population. In fact, it can be demonstrated that in many cases hunting actually benefits a species. Conversely, each loss from poison, or any other cause, of an individual of a rare species such as beaver or otter, becomes highly significant to that population in Tennessee.

SOME ORGANIZATIONS CONCERNED WITH PESTICIDE APPLICATIONS IN TENNESSEE

The interest of the agencies and organizations concerned with economic poisons are by no means the same. Each group provides authoritative information on the subject and the policies and attitudes of each organization has a direct bearing on pesticide problems in that the use and regulation of economic poisons is in their hands.

FEDERAL

Tennessee Valley Authority
U. S. Corps of Engineers
U. S. Department of Agriculture
Department of Interior
U. S. Fish and Wildlife Service
Dept. of Health, Education, and Welfare

STATE

Dept. of Agriculture—Division of Foods, Drugs, & Dairies
Division of Plant Industry
State Game and Fish Commission
Department of Public Health
Stream Pollution Control Board
Department of Conservation
Division of Water Resources
Division of Forestry
University of Tennesse

PRIVATE

Tennessee Conservation League
Tennessee Ornithological Society
American Medical Association
National Audubon Society
Sport Fishing Institute
Fuel and utility industries
Wildlife Management Institute
Wildlife Society
National Wildlife Federation
The lumber industry
The agricultural industry

In most cases the particular interest of the organization is evident from the title. Some have multiple interests. The Game and Fish Commission, for example, uses many types of economic poisons in the normal course of fish

and game management, however, we would be particularly concerned if accidental wildlife losses resulting from pesticide application should become evident.

Listed below are some of the chemicals used in more than 6100 brands of commercial pesticides. The groups are arranged according to use or chemical characteristics.

Fumigants

Methyl bromide
Carbon disulfide
Hydrocyanic acid
Ethylene dibromide
Ethylene dichloride
Carbon tetrachloride
DDD (1, 3-dichloropropene - 1 & 1, 2 dichloropropene)

Rodenticides

Alpha naphthylthiourea
Barium carbonate
Pival (2 Pivalyl - 1, 3 indandione)
Sodium fluoroacetate (compound 1080)
Castrix
Phosphorus
Red Squill
Strychnine
Thallium (Thallous sulfate)
Tomorin or Coumachlor
Warfarin (anticoagulant)
Zink Phosphide

Herbicides

2, 4-D (2, 4-dichlorophenoxy acetic acid)
2, 4, 5-T (2, 4, 5-trichlorophenoxy acetic acid)
C. M. V. 3-(P-Chlorophenyl)-1, 1-Dimethylurea
Chloro IPC; Isopropyl N (3 Chlorophenyl) Carbamate
MCPA; 2 Methyl - 4-Chlorophenoxy acetic acid
IPC Isopropyl N-Phenylcarbamate
Ammonium Sulfamate (Ammate)
Dalapon
Maleic Hydrazide
Pentachlorophenol
Sodium Chlorate
TCA Trichloroacetic acid

Thiocyanates

Lethan 60 Lethane 384 Thanite Toxaphene (Chlorinated camphene)

Chloronated Acaricides

Aromite Dimite Niotran Ovatran Sulphenone

Organic Phosphates

Demeton (ingredient in Systox)
Diethyl 2-chlorovinyl phosphate
TEPP-Tetraethyl Pyrophosphate
Dimethyl 1 carbonethoxy - 1-propen - 2YL
EPN
Malathion
Chlorthion
Diazinon
Potasan (E - 838)
Parathion
Schradan (OMPA)
Dipterex

Guinones

Phygon Spergon

Dithiocarbamates

Ferbam Naham Ziram Captan Ortho Phenylphenol
Manzate Zineb Glyodin Thiram

Miscellaneous Fungacides

Bordeaux mixture—copper sulfate & calcium hydroxide
Copper 8—Hydroxyquinolinate
Copper oxychloride
Copper 3—phenylsalicylate
Copper zink chromate
Sulfur
Lime and Sulfur
Mercuric chloride
Mercurous chloride

Inorganic Arsenicals Copper Cryolite

Botanical Nicotine Allethrin Pyrethrum Rotenone

Chlorinated Hychocarbons

Aldrin	Benzene Hexachloride (BHC, 666, HcH or Lindane)
Chlordane	DDT dichlorodiphenyltrichloroethane
DDD	Isodrin (Stereoisomer of aldrin)
Endrin	Methoxychlor
Heptochlor	

Dinitro Compounds

DNOC (Dinitro-ortho-cresol)
DNOCHP (Dinitro orthocyclohexyl phenol)
DNOSBP (Dinitro-o-secondary butyl phenol)

Other

Solvents Additives Detergents Emulsifiers Dusts Synergists

CONCLUSION

Long term research projects cooperatively planned and carried out by all agencies concerned would be of mutual benefit. The ecological effects of chemical control on plant and animal reproduction, vigor and longevity are little known and must be understood before solutions to present day problems can be ascertained. Much of the research needed could be accomplished cooperatively by state and federal agricultural and wildlife agencies if technical and financial assistance were made available by the private industries that are most concerned with Pesticide - Wildlife problems.

Conservationists should insist that the agencies managing fish and wildlife resources be prepared to investigate fully all cases suspected of being hazardous to their interests.

The educational institutions of the state should make additional efforts to impress on pesticide users the importance of proper use of economic poisons. Agricultural scientists should be encouraged to continue to develop highly specific or selective pesticides and, in addition to carrying out standard toxicity tests with laboratory animals, they should be asked to include tests with wild and domestic animals under field conditions.

There have been no chemical control programs involving large areas or "blanket" methods of application in Tennessee. Before any pesticide programs are planned for this state by the Division of Plant Industry, the Game and Fish Commission and other agencies concerned will be informed of the plans and asked to participate actively in specific planning in order that public health and the welfare of livestock and wildlife will not be jeopardized.

Conservationists need to be cognizant of the fact that the economics of most industries based on our natural resources require that some wild species be controlled. Industry should also recognize the real and esthetic values that conservationists are trying to safeguard. Government agencies should continue to provide, through educational and informational channels, common denominators by which the various agencies concerned with Pesticide-Wildlife problems can measure values in common terms. When this is accomplished, Land, Water, and Industrial management practices can be employed or developed with the aim of preventing population increases of species that are at present or may become pests under certain conditions. Biological and cultural controls are usually less expensive and in many instances are more effective than other means.

The indirect effects of pesticides on the biotic community may be much more important than the outward more obvious changes. Soil sterilization

or contamination, systemic plant poisoning, or the accumulation of toxic compounds in the bodies of living animals are less easily recognized but probably much more significant than outright mortality.

ACKNOWLEDGEMENTS

Several individuals and organizations contributed information for this article, I make special acknowledgement to Mr. H. L. Bruer, Director of the Tennessee Division of Plant Industry for details of pest control work in Tennessee. Mr. Eugene H. Holeman of the Tennessee Division of Foods, Drugs, and Dairies made available information concerning economic chemicals and the State regulations pertaining to pesticides. Mr. Forrest V. Durand, Director of the State Game and Fish Commission asked that this paper be written. To these and other unnamed persons, I acknowledge assistance and helpful suggestions.

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THE 1960 SPRING FIELD DAYS

By T. O. S. Members

Counts from the nine chapters account for a grand total of 195 species which exceeds all previous counts by four species. These counts do not include Reelfoot Lake area nor the count from the annual meeting which on some previous occasions has extended over a two day period. Four species occurred on the spring count for the first time. Three of these species lingering south longer than usual were, the Blue Goose, Redhead and Tree Sparrow. The very late cold weather and excessive amount of snow in late winter and early spring may have delayed their departure. The Blue Geese and Tree Sparrows were reported from at least two widely separated areas. The Redheads appeared to be the last of large flocks which were noted on our upper TVA Lakes during the winter and early spring.

(continued on page 34)

TABULAR RECORDS OF SPRING FIELD DAYS

SPECIES	Memphis 5-15	Nashville 4-23	Lebanon 5-1	Chattanooga 5-1	Knoxville 5-1	Greeneville 5-1	Kingsport 5-14	Bristol 5-1	Elizabethton 5-1
Common Loon	.....	.....	.....	.....	.....	.....	2	.....	4
Horned Grebe	.....	.....	2	.....	.....	.....	.....	.....	.....
Pied-billed Grebe	.....	1	.....	1	.....	.....	.....	.....	.....
Great Blue Heron	1	.....	.....	.....	.....	1	2	.....	.....
Green Heron	.....	11	1	6	19	4	6	.....	8
Bl.-cr. Night Heron	.....	6	.....	.....	1	.....	.....	.....	.....
Yel.-cr. Night Heron	.....	.....	.....	1	.....	.....	.....	.....	.....
Canada Goose	.....	.....	.....	7	.....	9	.....	.....	.....
Blue Goose	(1)	.....	6	.....	.....	.....	.....	.....	.....
Mallard	.....	.....	3	2	.....	.....	1	.....	.....
Black Duck	.....	3	.....	.....	.....	.....	.....	.....	.....
Gadwall	.....	.....	.....	.....	4	.....	.....	.....	.....
Blue-wng. Teal	.....	4	.....	7	3	2	1	.....	.....
Am. Widgeon	.....	.....	.....	.....	.....	.....	.....	.....	3
Wood Duck	.....	5	10	.....	3	.....	2	.....	22
Redhead	.....	.....	.....	.....	.....	.....	.....	.....	2
Ring-nk. Duck	.....	.....	.....	.....	.....	.....	.....	.....	1
Lesser Scaup	.....	9	.....	.....	.....	.....	.....	.....	2
Hooded Merganser	.....	.....	.....	.....	.....	.....	.....	.....	1
Red-br. Merganser	.....	.....	.....	.....	.....	.....	.....	.....	9
Turkey Vulture	1	27	5	1	36	8	13	.....	7
Black Vulture	1	12	.....	.....	7	8	2	.....	5
Miss. Kite	3	.....	.....	.....	.....	.....	.....	.....	.....
Sharp-sh. Hawk	.....	.....	.....	.....	1	.....	.....	.....	.....
Cooper's Hawk	.....	3	1	3	4	3	2	.....	1
Red-tld. Hawk	3	8	.....	3	2	.....	2	.....	.....
Red-sh. Hawk	.....	2	.....	.....	.....	.....	.....	.....	.....
Broad-winged Hawk	.....	1	.....	5	1	.....	1	.....	1
Marsh Hawk	.....	2	.....	1	1	.....	1	.....	.....
Osprey	.....	1	.....	.....	1	.....	1	.....	4
Sparrow Hawk	.....	10	3	5	4	1	5	.....	4
Ruffed Grouse	.....	.....	.....	.....	.....	.....	.....	.....	11
Bobwhite	7	49	25	55	47	13	6	.....	14
Ring-nk. Pheasant	.....	.....	30	.....	.....	.....	.....	.....	1
King Rail	.....	.....	.....	.....	1	.....	.....	.....	.....
Sora	.....	.....	.....	1	1	.....	1	.....	.....
Am. Coot	.....	7	.....	.....	.....	.....	.....	.....	.....
Semipal. Plover	.....	6	.....	2	.....	.....	.....	.....	.....
Killdeer	(1)	48	4	31	28	12	6	6	10
Am. Woodcock	.....	1	.....	.....	.....	.....	.....	.....	.....
Com. Snipe	.....	20	.....	14	16	2	.....	.....	4

Upland Plover	.....	1	.....	.....	.....	.....	.....	.....	.....
Sptd. Sandpiper	1	33	.....	10	15	.....	9	1	18
Sol. Sandpiper	(1)	25	1	24	24	7	7	.....	22
Gr. Yellowlegs	.....	5	.....	21	4	1	7	.....	8
Lsr. Yellowlegs	.....	17	.....	24	.....	.....	4	.....	10
Pect. Sandpiper	.....	12	.....	32	.....	.....	1	.....	.....
White-rmp. Sandpiper	.....	.....	.....	.....	.....	.....	1	.....	.....
Least Sandpiper	.....	13	.....	13	1	.....	12	.....	.....
Stilt Sandpiper	.....	.....	.....	.....	.....	.....	1	.....	.....
Semipal. Sandpiper	.....	.....	.....	1	.....	.....	.....	.....	.....
Herring Gull	.....	1	.....	.....	1	1	1	.....	.....
Ring-bld. Gull	.....	3	.....	6	8	.....	.....	.....	41
Laughing Gull	.....	.....	.....	.....	.....	.....	.....	.....	1
Bonaparte's Gull	.....	.....	.....	.....	.....	.....	.....	.....	1
Common Tern	.....	4	.....	.....	.....	.....	.....	.....	.....
Rock Dove	.....	.....	9	102	55	27	.....	24	12
Mourning Dove	7	86	25	182	305	88	18	36	48
Yel.-bld. Cuckoo	3	1	2	5	21	5	.....	.....	3
Black-bld. Cuckoo	.....	.....	.....	.....	3	2	2	1	.....
Barn Owl	(1)	.....	.....	.....	.....	1	.....	.....	.....
Screech Owl	.....	.....	.....	.....	1	3	.....	.....	.....
Barred Owl	.....	3	.....	.....	.....	.....	.....	.....	1
Chuck-will's-Widow	(1)	1	1	4	7	2	2	1	3
Whip-poor-will	.....	4	.....	.....	.....	2	.....	1	5
Nighthawk	5	6	3	6	6	2	4	.....	6
Chimney Swift	5	99	48	515	280	305	89	39	128
R.-t. Hummingbird	7	7	7	8	4	3	1	.....	2
Belt. Kingfisher	.....	6	1	7	12	3	4	.....	7
Yel.-sh. Flicker	(1)	18	4	63	65	26	10	28	46
Pil. Woodpecker	3	12	2	17	17	6	3	.....	8
Red-bel. Woodpecker	10	40	5	20	25	8	5	1	4
Red-hd. Woodpecker	2	5	1	32	10	15	1	2	.....
Yel.-bel. Sapsucker	.....	.....	.....	.....	.....	1	.....	2	.....
Hry. Woodpecker	1	5	.....	5	1	4	1	1	.....
Downy Woodpecker	4	37	3	22	33	13	4	14	10
E. Kingbird	1	7	7	37	46	14	6	1	16
Gr. Cr. Flycatcher	16	13	8	41	25	33	15	.....	2
E. Phoebe	2	18	.....	10	23	11	6	4	15
Acadian Flycatcher	34	.....	.....	1	7	.....	5	.....	1
Least Flycatcher	.....	.....	.....	.....	.....	.....	.....	.....	2
Olive-sd. Flycatcher	.....	.....	.....	.....	.....	.....	2	.....	.....
Eastern Wood Pewee	36	3	.....	16	12	6	8	.....	4
Horned Lark	(4)	3	.....	2	15	6	3	.....	9
Tree Swallow	.....	2	.....	6	92	.....	30	.....	3
Bank Swallow	.....	.....	.....	.....	27	.....	.....	.....	17
R.-winged Swallow	2	61	.....	65	53	18	50	17	36
Barn Swallow	.....	67	24	19	161	64	70	24	81
Cliff Swallow	.....	25	.....	510	9	1	33	.....	12
Purple Martin	(1)	10	36	171	380	30	24	1	7
Blue Jay	12	175	33	277	280	113	37	58	100
Raven	.....	.....	.....	.....	.....	.....	.....	.....	2
Com. Crow	15	87	17	110	205	31	29	20	89

Fish Crow	2	.....	.....	.....	.....	.....	.....	.....	.....
Car. Chickadee	14	56	7	52	114	23	8	35	19
Tuft. Titmouse	30	79	13	139	96	61	16	35	36
Wh.-br. Nuthatch	.....	5	.....	19	3	4	.....	13	5
Red-br. Nuthatch	.....	.....	.....	.....	1	.....	.....	.....	1
Brown Creeper	.....	.....	.....	3	1	.....	.....	.....	.....
House Wren	.....	.....	.....	.....	5	8	10	5	4
Winter Wren	.....	.....	.....	.....	.....	4	.....	.....	5
Bewick's Wren	.....	4	13	6	3	3	.....	.....	1
Car. Wren	36	19	7	64	85	30	13	8	29
Lo.-bl. Marsh Wren	.....	.....	.....	.....	2	1	.....	.....	.....
Mockingbird	2	128	37	200	263	57	27	24	65
Catbird	3	7	5	31	52	26	10	9	33
Brown Thrasher	10	29	15	59	84	56	19	27	51
Robin	1	54	13	199	178	58	8	37	98
Wood Thrush	28	20	2	158	79	42	22	30	50
Hermit Thrush	.....	.....	.....	.....	1	.....	.....	.....	.....
Swainson's Thrush	28	3	.....	14	10	.....	6	1	.....
Gray-chk. Thrush	3	.....	.....	1	1	.....	1	.....	.....
Veery	3	.....	.....	3	3	.....	.....	.....	1
E. Bluebird	(3)	21	2	52	49	5	2	.....	6
B.-g. Gnatcatcher	25	113	2	31	70	45	8	2	14
Go.-cr. Kinglet	.....	.....	.....	.....	.....	.....	.....	.....	3
Ruby-cr. Kinglet	.....	14	.....	2	5	2	.....	.....	.....
Cedar Waxwing	20	5	21	88	123	1	6	.....	17
Log. Shrike	(2)	5	.....	7	10	4	.....	.....	.....
Starling	7	477	53	600	890	300	Com.	94	275
Wh.-eyed Vireo	19	41	.....	39	59	11	7	8	14
Yel.-th. Vireo	4	10	.....	13	19	3	4	.....	6
Solitary Vireo	.....	.....	.....	.....	2	.....	.....	.....	3
Red-eyed Vireo	18	82	.....	145	132	12	13	.....	55
Phila. Vireo	.....	.....	.....	.....	.....	.....	.....	.....	1
Warbling Vireo	.....	.....	.....	2	7	1	1	.....	5
Bl. & Wh. Warbler	5	4	.....	13	27	8	9	6	27
Prothonotary Warbler	10	44	.....	1	4	2	1	.....	.....
Swainson's Warbler	(1)	.....	.....	.....	.....	.....	.....	.....	1
Worm-eat. Warbler	.....	3	.....	1	5	8	15	.....	9
Go.-wng. Warbler	.....	.....	.....	1	3	.....	.....	.....	.....
Bl.-wng. Warbler	.....	8	.....	4	2	.....	.....	.....	.....
Tenn. Warbler	92	10	.....	15	11	.....	5	.....	.....
Nash. Warbler	.....	2	.....	.....	1	.....	.....	.....	.....
Parula Warbler	8	5	.....	.....	22	.....	4	.....	15
Yellow Warbler	.....	22	.....	45	70	14	11	3	55
Magnolia Warbler	1	2	2	5	14	.....	4	.....	.....
Cape May Warbler	.....	.....	.....	41	12	4	1	.....	1
Bl.-th. Bl. Warbler	.....	.....	.....	.....	2	1	1	.....	14
Myrtle Warbler	2	48	6	83	65	28	2	3	23
Bl.-th. Gr. Warbler	1	.....	.....	7	19	.....	11	.....	13
Cerulean Warbler	13	42	.....	2	9	.....	9	.....	.....
Blackb. Warbler	2	.....	.....	5	23	.....	12	1	.....
Yel.-th. Warbler	2	17	.....	11	21	.....	8	.....	.....
Chest.-sd. Warbler	4	.....	.....	1	10	.....	.....	.....	3

Bay-br. Warbler	7	.....	.....	1	9	.....	4	.....	.....
Blackpoll Warbler	4	2	.....	41	7	.....	9	.....	.....
Pine Warbler	.....	.....	.....	3	8	.....	.....	3	2
Prairie Warbler	.....	10	1	36	42	.....	5	.....	4
Palm Warbler	.....	38	1	41	42	2	.....	.....	2
Ovenbird	1	12	.....	7	19	5	15	2	45
No. Waterthrush	.....	.....	.....	.....	3	.....	.....	.....	1
La. Waterthrush	4	28	.....	5	4	3	10	.....	5
Ky. Warbler	17	51	.....	23	13	.....	12	.....	2
Yellowthroat	3	30	2	57	68	22	15	.....	51
Yel.-br. Chat	12	12	4	79	82	20	23	1	31
Hooded Warbler	7	17	.....	14	35	.....	11	.....	15
Wilson's Warbler	.....	.....	.....	.....	.....	.....	3	.....	.....
Canada Warbler	1	1	.....	.....	3	.....	2	.....	10
Am. Redstart	28	27	.....	16	17	2	7	.....	18
House Sparrow	.....	154	66	229	137	35	10	73	250
Bobolink	(15)	7	.....	280	145	15	150	.....	13
E. Meadowlark	6	267	41	267	269	131	39	38	119
R.-w. Blackbird	7	277	6	254	376	78	13	24	101
Orch. Oriole	4	23	31	38	56	22	16	1	17
Balt. Oriole	1	2	.....	7	11	.....	4	4	11
Rusty Blackbird	.....	.....	.....	25	.....	2	.....	.....	.....
Com. Grackle	6	829	51	233	292	170	12	52	350
Br.-hd. Cowbird	55	92	5	77	85	44	24	6	38
Scar. Tanager	2	5	.....	17	15	3	13	1	25
Summer Tanager	18	18	4	69	52	36	12	2	1
Cardinal	40	208	49	258	342	101	24	55	115
Rose-br. Grosbeak	2	10	.....	16	32	15	2	9	20
Blue Grosbeak	.....	.....	.....	7	2	4	.....	.....	.....
Indigo Bunting	60	25	4	88	76	23	25	3	24
Painted Bunting	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Dickcissel	(15)	.....	.....	6	2	.....	.....	.....	.....
Evening Grosbeak	.....	.....	.....	42	.....	.....	.....	.....	3
Purple Finch	.....	60	.....	8	14	19	.....	.....	30
Pine Siskin	.....	.....	.....	30	.....	.....	.....	1	2
Ru.-sd. Towhee	2	75	16	193	188	48	21	38	70
Savan. Sparrow	.....	12	.....	6	2	.....	.....	.....	2
Grass. Sparrow	.....	.....	.....	2	10	5	3	.....	10
Leconte's Sparrow	.....	2	.....	.....	.....	.....	.....	.....	.....
Vesper Sparrow	.....	.....	.....	.....	.....	.....	.....	1	1
Bachman's Sparrow	.....	.....	.....	.....	2	.....	2	.....	.....
Sl.-cl. Junco	.....	3	.....	.....	1	.....	.....	.....	28
Tree Sparrow	.....	.....	2	.....	.....	2	.....	.....	.....
Chip. Sparrow	.....	63	7	47	100	38	6	2	41
Field Sparrow	1	76	7	57	144	35	30	2	64
Wh.-cr. Sparrow	2	12	2	1	13	39	1	.....	9
Wh.-th. Sparrow	.....	68	.....	60	176	31	16	10	20
Lincoln's Sparrow	.....	.....	.....	.....	.....	1	.....	.....	.....
Swamp Sparrow	.....	6	.....	.....	.....	.....	.....	.....	1
Song Sparrow	.....	.....	1	59	213	42	40	12	76
TOTAL SPECIES	78 + (14)	127	66	131	143	106	121	63	132
	GRAND TOTAL SPECIES								195

(continued from page 29)

The Ring-necked Pheasants have been released in several areas of the state, recently by the State Game and Fish Commission. If the species thrives as expected it should occur on our censuses with increasing frequency.

The various chapters are to be congratulated on their excellent counts. The high counts indicate what can be done by proper planning and assigning of territories, searching for specific hard to find species and making positive identification, even by relatively small numbers of observers.

Since only a few of the chapter reporters provided little more information than to fill in parts of the blank spaces on the check-list, and the areas covered were approximately the same as in former years, this information is being omitted.

In the table, as usual, the chapter are listed progressively from west to east and the date upon which the count was made accompanies the name of the chapter. In the column headed "Memphis" the figures enclosed in parentheses ( ) denote birds seen only outside the Shelby Forest area.

T. O. S. ANNUAL MEETING, 1960

The Tennessee Ornithological Society held its 45th annual meeting jointly with the Wilson Ornithological Society, May 5-8, 1960 at Gatlinburg, Tennessee.

On the opening evening, Thursday, May 5, Mr. Arthur Stupka, Chief Park Naturalist for the Great Smoky Mountain National Park presented a very interesting and delightful selection of colored slides of flowers and birds found in the park. Following the showing of the slides in the Huff House an informal reception was given by the Knoxville Chapter of T. O. S.

At 6:30 on Friday and Saturday mornings members and guests of the societies met at Park Headquarters for conducted field trips around the area. Leaders for these trips were: Messrs. John Elson, J. T. Mengel, J. B. Owens, and Miss Jesse Dempster.

The Wilson Ornithological Society presented papers, both morning and evening of Friday and Saturday, in which T. O. S. members Ben B. Coffey, Jr., Thomas W. Finucane and Dr. J. T. Tanner participated. Friday evening Mr. and Mrs. Eugene West gave an informal showing of a film they had recently taken, with Mrs. West as narrator. The program was enthusiastically received.

The Board of Directors' Meeting was held in the Pine Room of the Mountain View Hotel as a luncheon meeting at 11:45 A. M. on Saturday.

Mr. Finucane gave the Treasurers report and Mr. Garlinghouse, as Chairman of the Auditing Committee, reported the treasury books in order.

Mr. John Ogden reporting for the committee on protected birds reported that through the efforts of the committee they had succeeded in omitting the Turkey and Black Vulture from the Unprotected list of Hunting Regulations for one year. If no complaints were registered other birds would likewise be dropped from the unprotected list.

Mr. Ganier reported the revision of the Distributional List of Birds of Tennessee was about ready for the printers. Mr. Will Hon of the State Game and Fish Commission, announced that $1,000 had been set aside in the budget for the publication of 10,000 of the T. O. S. lists. On behalf of the members, Pres. Pardue extended thanks for this generous consideration.

The Executive Board voted to continue the Newsletter for another year with a cost not to exceed $150.00. Temporary arrangements were made for providing the Secretary with a typewriter until arrangements can be made for the purchase of one.

Mr. Garlinghouse gave a report on the proposed organization of Ornithological and Natural History Societies for the following purposes: 1. To facilitate mutual exchange of experience; 2. To facilitate the work of member societies in promoting the proper use and management of natural resources in accord with the principles of good conservation; 3. To support educational and scientific work in the fields of conservation and natural history. The Board voted to investigate the matter further and bring its findings to the Board next year. The President offered to attend the next scheduled meeting as a representative of the T. O. S. at his own expense.

Dr. Farrell and Dr. Farrer, of Vanderbilt University, have received a grant from the National Science Foundation for the investigating of soaring birds in free flight by using a sail plane and releasing captive birds. An appeal was made for the acquisition of nestling Black and Turkey Vultures and Red-tailed Hawks. Adult birds used in these experiments will be allowed to go free after one trial flight. Immature birds are to be trained to return and thus used for perhaps many flights.

Mrs. Richard Nevius, as Chairman of the Resolutions Committee, reported as follows:

1. That the T. O. S. express its gratitude to the Knoxville Chapter and particularly to Mr. David Highbaugh, president of the Knoxville Chapter, and to Mrs. Robert Monroe, Chairman of the Local Committee on Arrangements.

2. That the T. O. S. express its deep appreciation and extend its sincere thanks to the Wilson Ornithological Society; to the president, Dr. Lawrence H. Walkinshaw, and to all its members who have contributed to the success of the meeting.

3. That the T. O. S. express its appreciation to the National Park Service and particularly to Mr. Arthur Stupka, Chief Park Naturalist.

4. That the T. O. S. express its deep gratitude and extend its sincere thanks to Gene and Adele West for their splendid movies shown on Friday evening and to Maurice Broun for his showing of the film "Four Seasons at Hawk Mountain" on Saturday evening.

5. That appreciation be expressed to Tom Finucane for his work in connection with the Tennessee Hawk count and for his presentation of a paper on this subject to the Wilson Ornithological Society and to Dr. James T. Tanner and to Ben B. Coffey, Jr., for papers read at the meeting of the Wilson Society.

6. That the T. O. S. reaffirm its position for 1959 opposing the indiscriminate broadcast treatment with highly toxic chemicals such as heptachlor in pest control programs, and, if the chemicals are to be used, their use coordinated with the U. S. Fish and Wildlife Service so that undue harm to Wildlife may be prevented.

7. That T. O. S. express appreciation to Mr. Will Hon who has graciously agreed to publish through the Game and Fish Commission facilities Mr. Ganier's **Checklist of the Birds of Tennessee,** at no cost to the T. O. S.

The Memphis Chapter invited the members of T. O. S. to hold their 1961 meeting at Reelfoote Lake.

The Saturday evening banquet was served in the main dining room of the Mountain View Hotel. Dr. Walkinshaw, president of the Wilson Society introduced members and guests. Other societies represented were Alabama, Georgia, Kentucky and Mississippi Ornithological Societies and the National Audubon Society.

Mr. Dixon Merritt, one of the founders of the T.O.S., gave the invocation.

Dr. Walkinshaw gave a very timely address. He pointed out the immediate need of obtaining natural habitats for the preservation of bird and animal life. He stated the rapidly increasing population was causing extensive destruction of areas of natural habitat. He also commented on the very practical and helpful use of mist nets for banding birds. After Dr. Walkinshaw's address, the members retired to the Huff House to see "The Four Seasons at Hawk Mountain", by Mr. and Mrs. Maurice Broun. The audience found the film delightfully entertaining and informative.

Sunday morning field trips were to Andrews Bald and Clingman's Dome and were led by Dr. Tanner, Dr. Howell, and Mr. Stupka.

It was impossible to take a composite list of birds found during the meeting because of the merging of the T. O. S. meeting with that of the Wilson Ornithological Society.

MRS. H. C. GARLINGHOUSE, Secretary, 2012 Cedar Drive, Knoxville 18

ROUND TABLE NOTES

LAPLAND LONGSPUR AT OAK RIDGE. — On March 10, 1960, the day after our biggest snowstorm of this unusual winter season, the ground was covered with snow, and more birds than usual came to our feeding area outside our office windows at the Special Training Building of the Oak Ridge Institute of Nuclear Studies. I had scattered seed over the snow when I filled the feeder and a number of small birds were feasting on it. The usual flock of Juncos was there, and some House Sparrows, three or four Song Sparrows, one Towhee, one Cardinal, one White-throat, a Field Sparrow, and one female Purple Finch who had made her first appearance the week before. Suddenly my attention was attracted to a sparrow-sized bird **running** across the snow, who had what appeared to be a light narrow band or strap extending from below his cheeks up to the crown of his head and an area of deep chestnut on the back of his head. He was about the size of the White-throat, was a much neater bird than the House Sparrow, and ran rather than hopped, which was unlike either of them. I knew I had a bird which I had never seen before and I jotted down all the markings I could discern and then called Julia Moore here in Oak Ridge, whose school was closed on account of the snow. I suggested the possibility of a Lapland Longspur, although my remembrance of the description was quite vague. The only reason I considered the possibility of its being this far south was that the Tom Caters of the Georgia Ornithological Society had written in their Christmas letter that they had discovered a Lapland Longspur in a field of Horned Larks, near Macon, Georgia. My description of the bird still feeding outside my window tallied beautifully with the description Julia read from her bird books of the Lapland Longspur. I must say that because the feet sank slightly into the snow at every step, I could not definitely make out the long spur. Several times during the morning the birds feeding on our lawn became startled and flew off. The first time I was dismayed, thinking I would not see the Longspur again, but I was delighted to have him reappear in practically the same spot in just a few seconds.

The next time he flew I watched, and found that instead of taking cover in the shrubbery as the other birds did, he flew up into the sky in a big elipse and back to the ground near the spot where he took off, much the way the Horned Larks do.

Soon after lunch-time, Clara Dunbar (Mrs. Robert Dunbar) came over with a friend who had managed to navigate her car in the snow, bringing with her binoculars and bird books, but, true to form, the bird refused to appear. From the pictures and description in the books, I ascertained that the bird was a male, in plumage about half way between summer and winter. His throat was much darker than the picture of winter plumage, and the top of his head was lighter brown with a small beige streak on the crown. The chestnut patch on the back of his head appeared solid and about as dark as the pictures of summer plumage. Altho we spread seed on the ground all of that week and watched for him constantly, the bird did not come back after that morning.

Perhaps I should add that we put up the bird-feeder last fall on our stretch of lawn about 100 ft. square, surrounded on 3 sides by our building and bounded on the 4th by the AEC cyclone fence and driveway. I became quite discouraged because only a small flock of House Sparrows found it for a long time. One of the flock very cleverly began swishing seeds off onto the ground with his bill, so that the rest of the birds could feed on the ground. When the weather got bad, the Juncos and Song Sparrows came, and fed on the seeds on the ground, and it wasn't until we had snow that any of the other birds appeared. The Lapland Longspur apparently came with the Juncos and the Song Sparrows, so we **may** owe our only East Tennessee record to the detested House Sparrow. During the snowy days following March 10, we also had two male Purple Finches, and two Robins for whom we put out crumbs. All of the birds continued coming during the snowy weather, except for the little Lapland Longspur, who must have been well on his way back to the frozen north. This apparently is the only East Tennessee record, although the Lapland Longspur has been reported in the Memphis area, and at some time in the Nashville area.

MRS. E. E. OVERTON, 1307 Woodcrest Drive, Knoxville 18.

TREE SPARROW IN CHATTANOOGA.—Sunday afternoon, February 28th, was one of our few clear days after almost two weeks of snow and bad weather. We noticed that a wave of sparrows had moved into our yard that day—our White-throat and Field Sparrow population had increased and, in addition, two Fox Sparrows and a pair of Song Sparrows had appeared.

I was pruning some roses when I heard an unfamiliar song—one with a sparrow-like quality, but one I had never heard before. I got the binoculars and began a search for the bird. I found it in a tulip poplar 25 or 30 feet from where I was standing. It was facing me and singing. The light was fairly good and my view unobstructed. The bird was on a lower limb and I could clearly see the rusty cap and clear breast with the black stick-pin. I identified it as a Tree Sparrow *(Spizella arborea)*. However, since it was the first I had ever seen, I called my husband to come outside and double-check my identification. Before he arrived, the bird flew away. We remained outside about thirty minutes and heard it singing, but were unable to get another good look at it.

We then went into the house and played the Peterson-Allen "Field Guide to Bird Songs" record of the tree sparrow song, and this further substantiated our identification as the song was identical. We have not seen the bird since that time.

CARROLL D. BARR, 221 Peace St., Chattanooga, Tenn.

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DR. W. RYDZEWSKI, 1 Altyre Road, Croydon, Surrey, ENGLAND.

CAMPUS BIRD COUNT—UNIVERSITY OF TENNESSEE, KNOXVILLE.—A new bird for Knox County, the Alder or Traill's Flycatcher, was reported in the first University of Tennessee Campus Bird Count, held Sunday, May 10, 1959.

Spending about eight hours in the field, three members of the Knoxville Chapter of T.O.S., Kenneth Dubke, Robert Hamilton and the writer, conducted the count. The project was carried out as part of the nation-wide Campus Bird Count organized by Sarah Lawrence College, Bronxville, N.Y. Most of the territory owned by U-T in Knoxville and Knox County, some 650 acres, was covered. A total of 71 species and 614 birds was enumerated.

Messrs. Dubke and Hamilton found the Traill's Flycatcher in a forestry tract lying south of Cherokee Trail on the bluffs south of Fort Loudoun Lake. Identification was made principally by the "we-be-o" call. The following Saturday, May 16, David Highbaugh, Paul Pardue and the writer also observed the bird in the same area.

The total tally for the U-T count follows: Green Heron, 1; Bobwhite, 6; Killdeer, 1; Rock Dove, 12; Mourning Dove, 36; Yellow-billed Cuckoo, 3; Nighthawk, 1; Chimney Swift, 25; Ruby-throated Hummingbird, 3; Flicker, 3; Pileated Woodpecker, 3; Downy Woodpecker, 1.

Eastern Kingbird, 2; Great Crested Flycatcher, 5; Acadian Flycatcher, 8; Traill's Flycatcher, 1; Wood Pewee, 2; Olive-sided Flycatcher, 1; Purple Martin, 2; Blue Jay, 14; Common Crow, 10; Carolina Chickadee, 9; Tufted Titmouse, 4; Carolina Wren, 11; Mockingbird, 23; Catbird, 2; Brown Thrasher, 1.

Robin, 30; Wood Thrush, 5; Swainson's Thrush, 20; Veery, 1; Eastern Bluebird, 1; Blue-gray Gnatcatcher, 30; Starling, 70; White-eyed Vireo, 2; Yellow-throated Vireo, 1; Red-eyed Vireo, 21; Warbling Vireo, 2.

Warblers: Black-and-white, 6; Worm-eating, 1; Yellow, 4; Cape May, 4; Cerulean, 3; Blackburnian, 4; Bay-breasted, 1; Blackpoll, 6; Pine, 8; Ovenbird, 2; Kentucky, 4; Yellowthroat, 2; Yellow-breasted Chat, 6; Hooded, 6; Canada, 4; American Redstart, 4.

House Sparrow, 13; Eastern Meadowlark, 4; Redwinged Blackbird, 8; Orchard Oriole, 8; Common Grackle, 32; Brown-headed Cowbird, 15; Scarlet Tanager, 2; Summer Tanager, 9; Cardinal, 22; Rose-breasted Grosbeak, 1; Indigo Bunting, 14; Goldfinch, 8; Rufous-sided Towhee, 18; Chipping Sparrow, 2; Field Sparrow, 7; White-throated Sparrow, 2; Song Sparrow, 11.

JOHN ELSON, 2001 Ogden Avenue, Knoxville 16, Tenn.

ERRATA

Vol. 30, No. 3. September, 1959. OBSERVATIONS AT BUSH LAKE. Page 33

Line 9, Common Loon: . . . Nov. 21 and 24 and Mar. 18 . . .

Line 15, Mallard: . . . until Jan. 16 (1); . . .

Line 17, Green-winged Teal: Oct. 23 (3) and . . .

Line 5 from bottom of page should read "Hawk: (2) Jan. 14; Sparrow Hawk: one or two pairs all year" . . .

Page 34 line 3, . . . April 20 (1) then 1 to 7 . . .

Line 7, Ring-billed Gull: . . . Dec. 6 (180) and then continued to increase until a peak was reached Dec. 20 (285), Jan. . . .

THE MIGRANT

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NOTE OF APPRECIATION

Considering the tremendous responsibility and the long hours of planning and execution of the plans, various members of the Knoxville Chapter of T. O. S. are due a very deep debt of gratitude and a special vote of thanks and commendation for the very excellent manner in which the joint meetings of the Wilson and Tennessee Ornithological Societies were conducted in Gatlinburg on May 5-8, 1960.

Mrs. Robert A. Monroe served as chairman of the local committee, assisted by her very capable and efficient husband, as well as co-chairmen Paul Pardue and David Highbaugh. The Monroes manned the registration desk throughout the meeting. Paul Pardue attended to all equipment and provided projectors and a projectionist when needed. David Highbaugh planned and provided leaders for the field trips, while his wife mimeographed all the abstracts at half price. The Knoxville Chapter of T. O. S. arranged for and carried out the reception on Thursday night and provided the refreshments. Mrs. E. E. Overton and Mr. and Mrs. H. C. Garlinghouse assisted in many ways, while Dr. James Tanner, Dr. Joseph Howell and Mr. Arthur Stupka led field trips and provided information.

All those mentioned and many others contributed to a most successful and enjoyable meeting.

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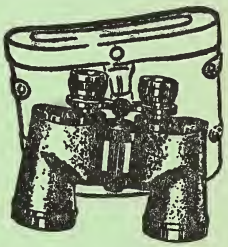

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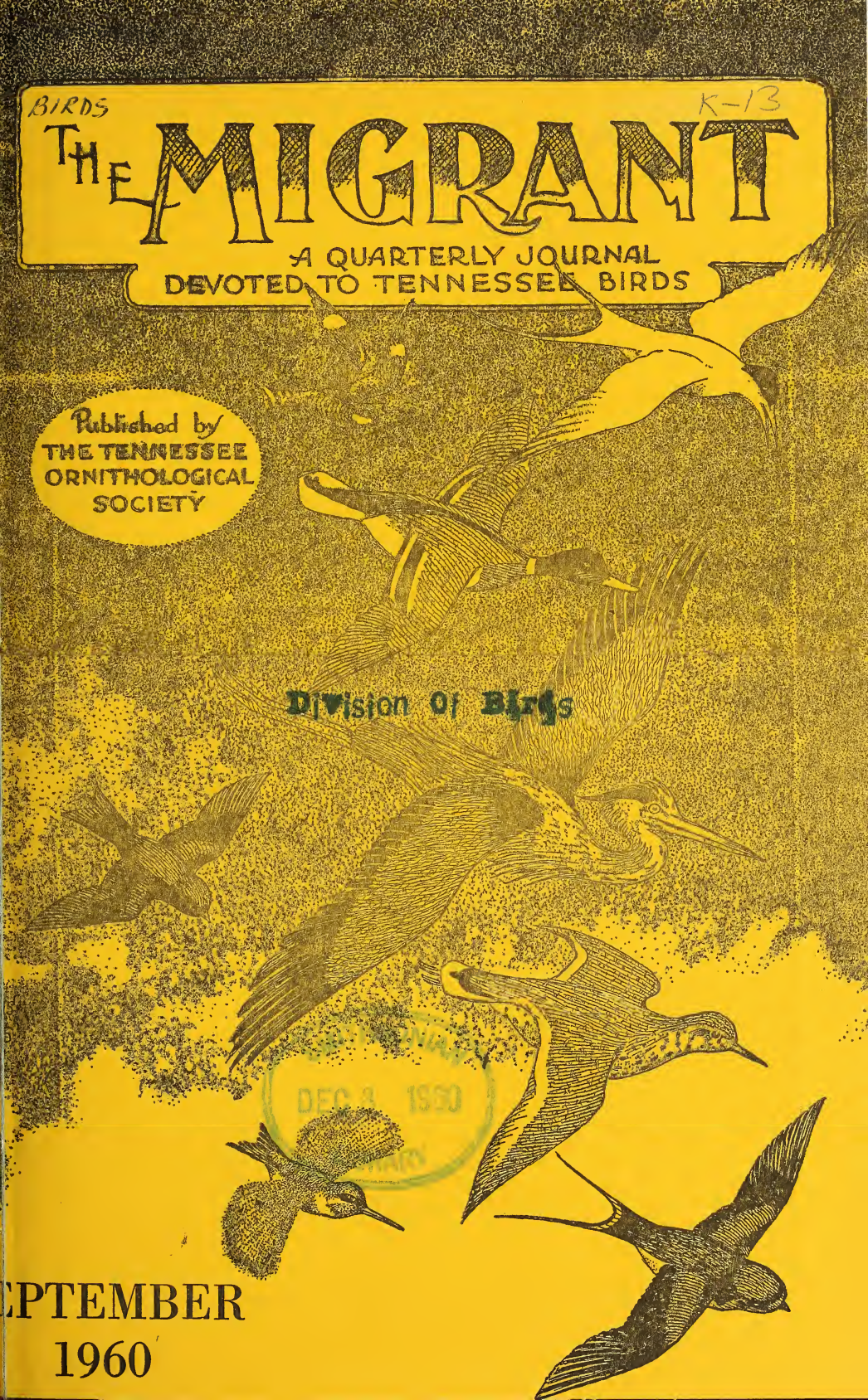

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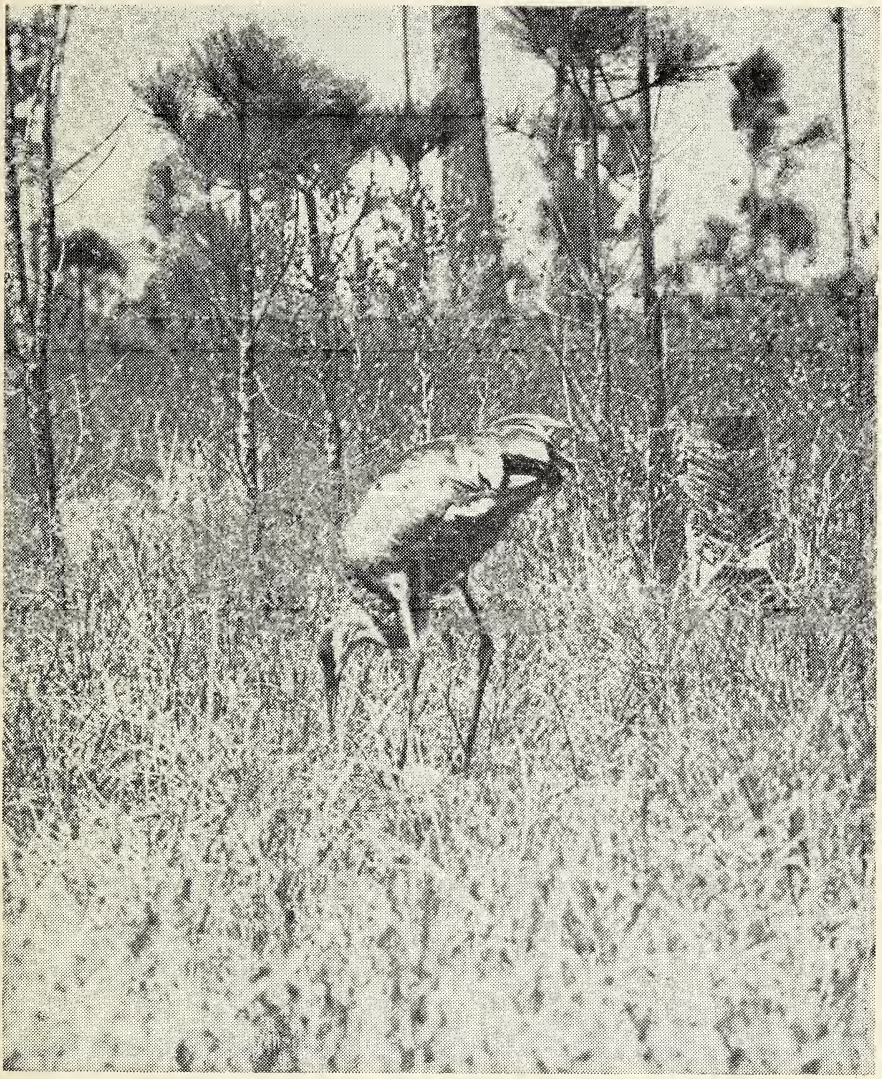

FLORIDA SANDHILL CRANE *(Grus canadensis pratensis)* NEST, EGG AND HABITAT

SMITHSONIAN INSTITUTION DEC 7

THE MIGRANT

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VOL. 31 SEPTEMBER 1960 NO. 3

SOME MISSISSIPPI CRANE NOTES

By LAWRENCE H. WALKINSHAW

In 1938 E. A. McIlhenny (Auk,1938,55:598-602) was told of a group of Florida Sandhill Cranes *(Grus canadensis pratensis)* nesting in Jackson County, Mississippi. On visiting this area he was shown a nest with two eggs and several people in the neighborhood discovered several nests later giving Mr. McIlhenny two downy young which he raised.

During April, 1940 I visited the area and found on April 17 a nest with two eggs, then another nest was shown to me on April 18 with two eggs and I found a third on April 19 with two eggs. The areas where these cranes nested were grown to some small trees even though they were marshy. The predominant tree in one area was small cypresses; in the second area small yellow and long-leafed pine. The ground vegetation was predominantly sedges and water stood about 3 to 15 inches deep. Observations of cranes in 1940 were April 17, 7; April 18, 8; April 19, 12; April 20, 2; April 21, 5.

The first nest measured 128 x 125 cm. across and was 12 cm. above the water which was 20 cm. deep. The two eggs measured, 104 x 59 mm. and 99 x 59 mm. and weighed 162.2 and 146.5 grams. These eggs were light buffy with splotches of buffy and lavender.

The second nest was found by Henry King on April 12, 1940 when it contained two eggs. On April 18 young were peeping in both eggs even though they were not pipped. The nest was a pile of sedges like nest 1. It measured 110 x 98 cm. across; 15 cm. high and was in 30 cm. of standing water. The two eggs were light buff with few light buffy spots, most of which were at the larger ends. They measured 90 x 59 and 89 x 57 mm. across and weighed 135.0 and 121.1 grams. On April 19 both eggs were pipped at 4 P. M. and at 6:30 A. M. April 20 one had hatched; the second hatched at 2 P. M. The first young weighed at 6:30 A. M. 105.0 grams, and at 2:00 P. M. 103.0 grams and the second 93.4 grams. Wings measured 34 and 31 mm.; tarsus 34 and 31 mm.; exposed culmen both 22 mm. Both parents were very attentive and were around the nest all the time that I was not bothering them. They were much tamer than other cranes with which I have had contact.

Nest No. 3 on April 19 was found 500 feet from Nest No. 1. It measured 140 x 95 cm. across, 15 cm. high and the water was 25 cm. deep. The two eggs were marked much like the others. They measured, 101 x 59 mm. and 95 x 59 mm. and weighed 169.4 and 153.3 grams.

On October 24, 1952 my wife, the Harold Wings and I visited this area in the late afternoon and watched cranes flying into Bayou Castelle for the evening. Between 5:15 and 5:38 P. M. 15 cranes in groups of 4, 3, 2, 4 and 2 flew into the roost area.

On March 29, 1960 my wife and I again visited the area and in less than two hours I found a nest in the same marsh that I had visited in 1940. The cypress trees were somewhat larger but the water was about the same depth. This nest was a small pile of sedges also and measured 117 x 96.5 cm. across and was 10 cm. high in 10 cm. of water and was surrounded by cypresses near the yellow pine forest. The two eggs measured 94.1 x 59 and 96.2 x 56.2 mm. The spots on the eggs were very fine and scattered over the entire surface. I only saw the two cranes at this nest during the 3 hours I was in the field. The next morning I observed 7 cranes. This was the area north of Fontainebleau. North of Ocean Springs after talking with several people including Henry King who had found the 1940 nest, they reported that there were a few cranes in that area also.

How long the cranes can continue to battle civilization in this area I do not know. Housing projects are coming very close to the area north of Fontainebleau. The St. Regis Paper Company has much of the land under lumber lease so that possibly this may maintain a breeding population for many years.

SUMMARY

The Florida Sandhill Crane was first found nesting in southern Mississipi in 1938. I first visited this area in 1940 and returned for a few hours in March, 1960. A total of 34 cranes were observed here April 17-22 and three nests were observed. In October, 1952, 15 cranes in 5 groups were observed. March 29 and 30, 1960 I observed 9 cranes in 7 hours and found one nest.

The four nests averaged in measurements across, 124 x 103.8 cm. and 13 cm. (10-15) tall. Water averaged 21 cm. deep around the nests. The 8 eggs averaged in measurements, 96.04 x 58.4 mm. and in weight, 147.9 grams. Two young at hatching time weighed 103.0 and 93.4 grams.

819 North Ave., Battle Creek, Michigan.

THE SEASON

MEMPHIS.—On Mar. 26, 230 Blue Geese and 6 Snow Geese were seen on a reservoir at Booker, north of Crawfordsville, Ark. Spring migration was very late generally and poor, especially the early half. A "wave" was reported Apr. 28-30 by Oliver Irwin. Late May 15 (after an absence of 4 week-ends) we found a fairly good movement of Baltimore Orioles and Indigo Buntings along the levee below Lakeview, Miss. Bobolink passage was poor. Passage of transient Whip-poor-wills thru Overton Park appeared the poorest of last ten years. B. B. Cooper saw one on a road, Union County, near Hickory Flat, Miss., Mar. 26 but none called. Apr. 2, Supt. Gallagher heard one at Wall Doxey S. P., Miss. and we had only one calling out of 7 dusk-stops, Shiloh N. M. P., Tenn. No Chuck-will's-widow had called in Overton Park by April 15, and first dates were Apr. 16, Memphis (Oliver Irwin), and Apr. 15-22 for observers at Hardy and Almond, Ark. and Parsons, Tenn. Cliff Swallows apparently not at Pickwick Dam on Overcast Apr. 2 but were found at two points just south (in Miss.) and at Snake Creek bridge, north of Shiloh N. M. P. since I could go under and flush the swallows out into the air. Late Cedar Waxwings were 15 on June 8, Oliver Irwin.

The Blue Goose at Riverside Park was still present May 15 and Aug. 21 and that one at the Penal Farm, Aug. 6. A Mississippi Kite was seen 6 miles west of Dyersburg by-pass, May 21 and July 10. I found the Broad-winged Hawk much less common than usual, especially in Mississippi and West Tennessee. Dr. W. L. Whittemore saw a Duck Hawk, July 18, Flower Lake, southwest of Tunica, Miss. June 19, before dawn, Whip-poor-wills were heard just south of Shiloh N. M. P. and in the park itself (none on previous summer runs) two singles were heard as well as 27 Chucks, on 14 stops in 9.4 miles, 36 minutes. Two single Whips, early, June 12, near Zama (Kosciusko) extend Miss. summer records another 40 miles or 140 miles south of the Tenn. line. From highway 19 & 25 junction, one was 2.6 miles NE in Winston County and one 3.5 miles NW in Attala County; elevation, 500 feet. Enroute, early June 11, a fair number were east and southeast of Slate Springs. Phoebe nest plus old ones, Yocona River and Miss. highway 7, were of interest, June 12.

Small but new Cliff Swallow colonies were located: June 18, west of Counce, Tenn.; June 5, west of Mountain View, Ark.; and a range extension, July 4, Imboden, Ark. (previously checked), both Lawrence and Randolph County ends of bridge. An unreported site is the White River bridge west of Eureka Springs, Ark.,—3 birds still present July 30 (80 nests). The original site at Pickwick Dam was abandoned (except by House Sparrows) but several sites continue in use there. The Colbert Steam plant bridge, Ala., had 18 nests, May 5 (second season). A Tree Swallow favored a clubhouse on Reelfoot shore, Samburg, May 22, but not found July 10. Bewick's Wrens were noted June 12 at Walthal and Calhoun City, Miss. First House Wren summering in West Tennessee: batture edge 1½ mile north of Tiptonville ferry, one singer, May 22, and two singers seen July 10. First summering (and 6th record) of the Blue Grosbeak in Shelby County: southeast of Germantown, two singers May 21, Mrs. Coffey; on Aug. 6 I searched the area and found adults feeding one or more immatures able to fly fairly well.

Wood Ibis reported: Aug. 21, 3 flocks of 20 each, Mississippi River, 5 miles north of Helena (Dr. C. L. Baker), and 58, West Memphis, Ark. (Earl Fuller). On Aug. 23 Earl saw 31 near Marion, Ark. Once more we have a heron-shorebird spot, the Booker reservoir, Crawfordsville, Ark. Little Blue Herons, high, 190 immature, 18 adult, Aug. 7; Common Egret, 8, same date. On Aug. 13, 20 immature Mallards (resident reported species nesting) and 8 Black Ducks (early). Blue-winged Teal, 12 on Aug. 21 (EF), 250 on Sept. 11 and 17. Pintail, one, Sept. 11; 100, Sept. 17. Lesser Yellowlegs, high, 125 on Sept. 17 but only 5 Greater. Only a few Pectorals and peeps. Three male Wilson's Phalaropes were there, Aug. 20. Down to 3 Black Terns by Sept. 17 (Irwin reported 150 on the river, Aug. 21). Elsewhere, 2 Ring-billed Gulls at Pickwick Dam, June 18, and an Upland Plover heard overhead, Newport, Ark., 8 p. m. July 17 (BCs and Alice Smith). Whip-poor-will heard calling, Whitehaven yard, Aug. 26 and Sept. 6 by Mrs. Leslie R. Kostka. Swallows chiefly across river and among those at the Booker reservoir, Aug. 7, 13, 20 and Sept. 11, respectively: Bank—120, 400, 100, 2; Cliff—100, 95, 30, 8. As these left, many small flocks of Tree Swallows appeared.

BEN B. COFFEY, JR., 672 N. Belvedere, Memphis 7.

NASHVILLE.—The spring migration in Nashville was an interesting event and in some ways disappointing. Due to the fact that snow was on the ground into mid March such groups as the vireos and early arriving warblers were hard to find until later than their normal arrival dates possibly because of the noticeable shortage of insects in the trees until late April. One bright spot in early April appeared when Mrs. Amelia Laskey checked a report of "yellow birds" going to a feeder in Kingston Springs. On April 2, Mrs. Laskey found 2 Evening Grosbeaks at the feeder, only the second record for this species in the vicinity of Nashville.

For the most part migrants continued to be scarce through April. On the nights of April 13-16, noticeable waves of birds appeared in this area only to remain 1 day, and the woods were almost as deserted after the 18th as they were before the 13th. But during this 5 day period 26 species arrived in Nashville, several even contradicting the pattern of migration that had existed up to that time, by arriving earlier than normal. The most noteworthy of these was the Wood Pewee which arrived on the 17th, 3 days earlier than ever before in Nashville.

It was not until early May that migration really began to reach full steam. A trip to Radnor Lake on April 28 resulted in only 6 species of warblers but a similar trip on May 12 turned up 21 species of warblers, all fairly common. But even though the migration had started late, it ended on schedule for this area.

Interesting records during the spring were: Old Squaws, 4-7&9, 5 birds being the greatest number at one time (JCO et al); Franklin's Gulls, 5-5&6, (2) (Henry E. Parmer and Mrs. William F. Bell); Short-billed Marsh Wren, 1 at Ashland City Marsh on 5-14 (A. F. Ganier); Philadelphia Vireo, 5-12 (JCO); Brewster's Warbler, 4-17 (JCO, HEP); Orange-crowned Warbler, 4-21 (ARL, JCO); Black-throated Blue Warbler, 5-8&12 (1 each by Charles Hunt and HEP); Connecticut Warbler, 5-22 (ARL); and Lincoln's Sparrow on 3 occasions from 4-27 to 5-15 (HEP, JCO). A sharp peak was reached on May 10 through 12 in the swallow migration when flocks of approximately 750 of all species were gotten on both Bush and Radnor lakes. Barn and Bank Swallows were the most common.

The shore bird migration was highlighted by several important records. A small flock of Black-bellied Plovers was seen on River Road on 3-26 with 1 bird still there on the 27th (Louis Farrell et al). The usually rare White-rumped Sandpiper was recorded 4 different times during May at 2 different locations (HEP, JCO), and the Pectoral Sandpiper was recorded later than usual, 1 bird remaining till 5-12 (HEP). The last shore birds to leave Nashville were Least and Semipalmated Sandpipers which were last seen on 5-25 (HEP).

Summer started off cooler and wetter than usual resulting in not only better weather for the birds but also for the amateur ornithologist.

Because the Bluebird population was decreased so badly by the late and extreme winter, Mrs. Laskey had to report that the Bluebird breeding population was lower for this breeding season of 1960 than ever before recorded during her 25 year Bluebird project.

Cliff Swallow nesting appears to be increasing around Nashville. On 5-14, Henry Parmer and Dan Schrieber found a total of 175 active nests in 3 different locations along River Road and at the Cheathum Dam. On 7-9, Mrs. Katherine Goodpasture observed approximately 35-40 Cliff Swallows carrying mud under a large concrete bridge between Ashland City and Clarksville.

A Sharp-shinned Hawk nest had 6 eggs on 5-15 at Basin Springs but was empty on 6-12. It is questionable whether the nest was successful or not (KAG, JCO).

Several important records during the summer were: Forster's Tern on 6-24 at Bush Lake, (2) (HEP); Lesser Scaup Ducks at Bush Lake on 6-15, (8 females) (HEP); and Woodcocks at Two Jays, flushed 4 times from 5-8 to 6-26, the largest number at one time was 5 (CH, JCO). Ovenbirds remained at Basin Springs through the nesting season, last recorded were 2 on 6-26, 7-1, and 7-10 (KAG). On 8-10, 2 immature Lark Sparrows were seen approximately 10 miles south-west of Nashville (JCO).

Late nest of interest were a Towhee nest with 2 eggs on 8-11 which failed (Harry C. Monk); a Bluebird nest with 3 eggs hatching on 8-19 (ARL); a Mockingbird nest on 8-19 with 3 young (Clara W. Fentress); and 2 Dove nests, one on 8-31 with 1 young (ARL), and one on 9-6 with 2 large young (HCM). On 9-15, 2 nests were still active at Basin Springs, one a Dove with 2 young and the other a Yellow-billed Cuckoo with 1 young. (Banded by KAG).

The start of fall migration was noted with the return of the Black Tern on 6-25, Spotted Sandpiper on 7-22, 2 Sanderlings on 8-22, Least Sandpipers, 2 on 8-29 and Pectoral Sandpipers, 5 on 9-1. All of these records are by Henry Parmer at Bush Lake.

The return of land birds started with a Black-throated Green Warbler on 8-2 (CWF), and 2 the next day (WFB). The migration continued with a Canada Warbler on 8-18 (CWF), Golden-winged Warbler on 8-19 (CWF), Blackburian Warbler on 8-28 (JCO), and Magnolia Warbler on 9-1 (HCM). By the 3rd and 4th of September, migrants were reported from many different localities, the largest number being 18 species of warblers gotten on those 2 days at Two Jays, half of which were non-resident species. Included in this 18 species were 1 Mourning Warbler (HEP), and 2 Wilson's Warblers (JCO).

JOHN C. OGDEN, 515 Fairfax Ave., Nashville 12.

COOKEVILLE.—Since those snows of March cleared away, our season has been much as that of 1958. Either rain or high humidity or both gave an excellent early growing season for wild fruits. Wild cherries, in particular, attracted birds away from most of our feeding stations by mid-summer. No great extremes of weather developed, even though the rain fall was three inches above average once in July. Some of the 90-94-degree weather was a bit uncomfortable to us, but birds seemed to be unconcerned.

With the aid of a few grade-school children and college students, some 75 nesting sites were located. A dozen or so were under casual observation. Three nests (Starlings) were under more intensive study. For some Tech students, this was the first experience with birds in juvenal plumage. Some even believed that there were no young starlings in one Starling's nest.

For the Upper Cumberland Chapter, at recent meetings, the main theme has been the Audubon Screen Tours which are due to start with us on Oct. 16, but despite this absorbing subject, a little bird news has filtered through. Although Bluebirds have been scarce here, at least one family was successful. Young were found in a box (CH) some distance from any house. One warbler's nest was observed (RH). One male Towhee was seen feeding a nestling Cowbird (CH), the female abstaining. Cardinals have been as con-

spicuous as usual, but none were found nesting. One graduate student, concentrating on the nesting of Chimney Swifts, Barn Swallows, and Cardinals, was unable to find a single nesting pair of the red fellows.

A few of the well-preserved nests have been placed on display in West Hall (Biology and Physics) on the Tech campus. The rarest of these, discovered by Roy Hines, is that of the Blue-gray Gnatcatcher. Almost all who see this nest mistake it for that of a Hummingbird. Needless to say, there are on display **no** nests of Mourning Doves although they have nested extensively in the northern half of Cookeville.

P. I. HOLLISTER, Biol. Dept., Tennessee Tech.

CHATTANOOGA.—This has been an excellent season for shore birds in this vicinity. A particularly productive area has been the Spring Creek Road mudflat within the city limits. White-rumped Sandpiper at Spring Creek on June 7 was the latest of four reports of this species this spring. Pectoral Sandpiper has been seen quite regularly since the end of July. A July 30 record was ten days earlier than the previous earliest arrival date for this species. Reports of Least Tern on Aug. 20 and 22 were the fourth and fifth records for this area. For the second time since 1953 a family of Red-cockaded Woodpeckers (3 individuals) has been reported in Chickamauga National Military Park. The date this year was June 20. Again this year the Scarlet Tanager has been reported in the Chickamauga NMP (Georgia) area. Although no actual nesting record was reported, the male bird was seen and heard several times during the last two weeks of June. Other noteworthy observations for the area will be found under Round Table.

ROCK COMSTOCK, 1000 South Crest Road, Chattanooga 4.

GREENEVILLE.—A rather unusual spring seems to account for the few warblers observed during migration. A few Worm-eating Warblers were observed feeding in an oak tree. A short distance away in the same vicinity, three observers watched and studied several small birds feeding in another oak tree, for about half an hour. At first they were thought to be more Worm-eating Warblers, until one was observed with a rusty-brown cap and a white stripe over the eye where the Worm-eating has black stripes on a buffy head. Books were hurriedly examined and after observing several of the busy little fellows for some time the conclusion was reached that they were Swainson's Warblers.

The Sora and Short-billed Marsh Wren were seen and heard from July until about the middle of September in the lowlands along Roaring Fork Creek. A flock of Bobolinks and a Great Blue Heron were observed in the same area Sept. 10. A first record is that of a Broad-winged Hawk seen several times during the summer along the Lick Creek section by Richard and Ruth Nevius. Mrs. Clemons reports an unusually large number of Red-headed Woodpeckers in her area.

Mrs. Guinn reports a pair of nesting Canada Geese hatched six young, five of which survived. This is the third year they have had a successful nesting. As of this writing, there are about 15 geese including the goslings. She states the number varies as they come and go at will while some remain longer than others.

MRS. ELVA DARNELL, Route 4, Greeneville.

KINGSPORT.—The reports on birds from the middle of March to the middle of September were in no way so unusual as the weather. Winter weather prevailed throughout March with heavy snows and no high March winds. In April there were no April showers; the last half was unusually hot. So we went from winter to summer with no spring. Early May was very rainy and cool. Several species of wintering birds and migrants were recorded late in the spring. Common Loon, May 14, our latest record and Evening Grosbeaks not only in March but throughout April. Our Spring Census added the Stilt Sandpiper to the Kingsport list.

During the early months, our only noteworthy observations concerned numbers. Local populations of Chimney Swifts and especially Purple Martins appeared greatly reduced. Carolina Wren were also conspicuously absent. Only one Carolina Wren was heard where three pairs normally are supported. There seemed to be unusually large numbers of Mourning Doves in the country around Kingsport. Mrs. J. M. Adams reports greatly increased numbers of Brown-headed Cowbirds at her feeder—as many as fifteen at one time.

The Hawk count has elicited regular observations and reports from the Kingsport Chapter, but as of mid-September no exciting numbers.

ANN H. SWITZER, 1620 Fairidge Place, Kingsport.

A NEW HERONRY IN NORTHWEST TENNESSEE

By ALBERT F. GANIER

Possibly the largest nesting colony of the Little Blue Heron *(Florida caerulea)* in Tennessee, was visited by me on June 1 and 2, 1960. The locality is 2.5 miles northeast of Dyersburg and so far as I can ascertain is the most northerly breeding colony in the Mississippi valley. This heronry was pointed out to me by my son Roger during the past winter, at which time the trees were leafless and I was able to estimate that there were between 600 and 800 nests.

The June visit was for the purpose of estimating the relative numbers of each species of heron using the place. This I did by watching the adult birds flying in and out during their trips to their feeding grounds. On this basis, 90 percent were estimated to be Little Blues and 10 percent Common Egrets *(Casmerodius albus)*. Two Black-crowned Night Herons were also found using the place and doubtless were nesting. Assuming 600 nests were being used, this would give a population of 1080 adult Little Blues and 120 of the Egrets. The nests all had young and assuming 4 to a brood, this would make at least 2,400 young.

Most of the young had reached the stage where they were climbing about in the limbs near the nests or even into the tops of the nesting trees. In one tree, near the edge of the four acre woodland containing the nests, nearly all young from its ten nests had climbed to the top, there to eagerly await the return of their parents with food. They so whitened the tree-top that it was made easily visible from Highway 51, a quarter mile westward. Some of the young, during their efforts to climb, had fallen to the ground and a dozen were wandering about. No adults were seen to come to the ground to feed these and it is probable that these were left to starve for a score of dead ones were found in various stages of decay. No predators appear to have visited the place.

The extensive farm on which this heronry is located was not cultivated for several years prior to 1959 but in the spring of that year, intensive cultivation of cotton and corn all around the heronry was resumed. This patch of woodland is low and formerly stood knee-deep in water during the spring, thus meeting the preferred requirements for a safe nesting site. A small drainage ditch thru it now drains off the water. It is probable that the Little Blues moved here from a former heronry east of Ridgeley, 16 miles northward, which I described in THE MIGRANT for March, 1951 (22:4-5). That colony was broken up some years later. The Ridgely colony contained as many Little Blues but also sheltered more than a hundred Snowy Egrets *(Leucophoyx thula)*. The trees in the present colony consist chiefly of box elder, water maple, overcup oak and elm, with a few willows, cottonwood, etc. None were more than 9 inches in diameter. Most of the nests were placed from 16 to 25 feet up, though a few were built between 12 and 16.

On their return trips with food, the adults came in from all points of the compass, showing that they not only gathered food from the Forked Deer river swamps three miles southward but also from the Jones creek drainage canal and perhaps fallow fields near at hand. Observers at other heronries have found that the young were fed largely on grasshoppers. The young of the Little Blues are white in color, as are also the Egrets, but can be distinguished from the latter by their blueish-black bills instead of the greenish-pink of the Egrets. Some of the nests appeared ridiculously small to be used for four eggs and a sitting bird. The smallness of the platform is one of the reasons why the young take to the limbs as early as possible during the daytime. Another reason is that as they develop, the more precocious ones peck at their smaller brothers and force them out.

A din of noise prevailed continually, consisting of the "squawks" of the adult herons, the come-hither calls of the young and the scolding clatter of the Common Grackles, dozens of which were nesting in the trees thruout the place. Their nests held either eggs or young and since they were not observed to be flying away for food, it is probable that they may have been finding a supply from the food regurgitated by the herons or else were consuming the blow fly larvae which are found in the larger nests of the herons. I have always found Grackles nesting in heronries and there would appear to be some beneficial reciprocation between the two species.

The high power dams on the Tennessee river caused the clearing out and flooding of swamps near the stream which were formerly suitable for heronries and the progressive creation of drainage canals in West Tennessee has further greatly reduced suitable breeding areas. The attention of the local game warden was called to the need for protecting the heronry from boys out for target practice. He was well aware that the birds were protected by law and promised to give the matter his attention. It was explained to him that after gaining ability to fly, the young distribute themselves over a vast area and perform useful scavenger service in ridding ponds and streams that are drying up of dying fish and aquatic life that would polute such streams when they become active again.

2112 Woodlawn Dr., Nashville 12, Tenn.—June 4, 1960.

ROUND TABLE

THE THREE-TOED WOODPECKER RECORD.—In "The Season" department of the March 1960 MIGRANT, p. 13, Mrs. Waters in reporting for Lebanon, made rather casual reference to one of these birds thought to have been seen there by the Misses Campbell. Since my duties as Curator involve the securing of as full data as possible to evaluate such unusual records as this, I have secured some further details from those mentioned in the report. Miss Campbell tells me that the bird was observed in her back yard from a window some thirty or forty feet away and without binoculars. At the time, it was pecking at suet attached to a tree and that it appeared to her to be darker than a normal Downy Woodpecker but no larger. No yellow was seen on its head as would have been the case had it been a male Three-toed. She later phoned Mr. Dixon Merritt, mentioned the dark color and was told by him that the only small woodpecker darker than a Downy was the Northern Three-toed Woodpecker. Mr. Merritt says however that he did not intend to authenticate the record by giving this information. Mrs. Waters, under pressure from our Editor to make the dead-line for the March issue and he in turn hurrying to get the issue out before the Wilson Society meeting at Gatlinburg, by-passed the usual checking and let the item go in. Since the species thought seen is about twice the size (in appearance) as the Downy and since that species is a non-migratory resident of Canada, having a southern limit of Minnesota, Ontario and northern New York, the sight record mentioned would seem to be highly questionable. For small birds of great rarity, there is ample justification for collecting the specimen in order that unquestioned identification may be made for the Society's records.

ALBERT F. GANIER, Curator, 2112 Woodlawn Dr., Nashville 12.

GREATER SCAUP *(Aythya marila)*. — On December 1, 1959 I found 19 scaup at Bush Farm. They were on the river only a few feet from the near bank. There were 14 males and 5 females. The time was 11:00 A. M. and the sun was at my back. The heads of all males were green, almost as bright as male Mallards in the sun. I moved through a 90 degree arc and the heads remained green at all times. I returned December 3 two hours earlier and found them at the same place. The sun was again at my back, but lower. This time I could find no iridescence at all, only a dull black to the heads. The sides of most of the males were pure white, with some dusky vermiculation on the sides of 3 or 4 of the males, but much less than on a normal Lesser Scaup *(Aythya affinis)*. Seventeen had rounded heads as a Mallard has, one an angular shape as a Lesser Scaup, and one seemed in between. The next morning was overcast when I found them once again at the same spot. Again the heads seemed a dull black. This time I flushed the flock at a distance of about 80 feet. In all 19 ducks the white stripe continued through the wing primaries to the very tip. To me the white wing stripe seemed almost the same degree of brightness from the body to the wing tip. All observations were made through 7 X 35 binoculars at the very favorable distances of from 80 to 150 feet, and at an elevation of about 30 feet above the water. I feel sure that all 19 birds were Greater Scaup.

HENRY E. PARMER, 800 Richland Avenue, Nashville 5, Tenn.

SUMMER TANAGER CAPTURING WASPS.—About 3 p.m., on June 9, my attention was called to a large bird that had flown to the top of a tall oak tree. The bird proved to be a Pileated Woodpecker. About the same time, I noticed a medium sized bird flitting and darting rapidly to and fro, near the top of an elm tree about 30 feet above the ground. Looking more carefully, I saw that this bird was a Summer Tanager. It was seizing and killing large wasps, of which a dozen or more were flying about. I went into the house and returning with my binoculars, could see clearly a wasp's nest, at the center of activity, about 4 inches in diameter. The bird kept killing the wasps until it finally settled on a branch at the nest. It then opened the caps, took out a grub with which it flew away, presumably to its nest. Rain had commenced, so I returned to the house. I watched for the bird the next morning and throughout the day but did not see it. Only a few of the wasps remained about the nest.

O. C. AULT, Nashville 4, Tenn.

SUMMER TANAGER CAPTURES YELLOW-JACKETS.—One morning in June several years ago, while sitting in my back yard, I noticed a female Summer Tanager fly to the roof of my garage and then hop down to the eave. She paused a moment while peering over, then flew vertically downward and up again under the roof sheathing where she fluttered momentarily, then emerged with a yellow-jacket in her beak. A small swarm of the insects, thus disturbed and maddened, flew into the air. Within two or three minutes, the Tanager returned and again repeated the procedure, flying to the roof above to peck at the insect before swallowing it. The few yellow-jackets that had returned to the three inch diameter nest, now gave up the fight and flew away. The Tanager remained on the alert, however, and flew out to catch a third individual as it returned. After disposing of this one, the bird again flew under the eaves and, fluttering below the nest, secured one of the grubs by uncapping a cell. This was repeated, after which the bird flew away and did not return. I then examined the nest closely and found that several of the cells had been uncapped. The nest was not further preyed upon. Tanagers are well known to prey upon honey bees and complaint has been made by apiaryists. In THE MIGRANT for March, 1938, 9:18, there is record of a Red-headed Woodpecker catching wasps as they flew by. The sting of such insects remain "live" and active for some time and one wonders if the birds pull out these stingers before swallowing.

ALBERT F. GANIER, Nashville 12, Tennessee.

LIVE INSECTS IN A BLUE JAY'S CROP.—It is usually customary for birds to kill and frequently dismember their prey before swallowing it. To what extent this is done with relatively small insects is not known to the writer, but the following instance shows how a Blue Jay disposed of such prey. The bird had been collected in the Unicoi mountains, on June 21, 1946, at an altitude of 4300 ft. and a couple of hours later was prepared as a study skin. During the course of this preparation, its throat and crop were found to be packed with a mass of small brown beetles, 5/8 inches long, of the general appearance of fireflys. There were about 25 of the insects in all, none were dismembered and most of them were still alive and able to move slowly about. The Jay had doubtless found them all together and devoured them rapidly, either to prevent their escape, or in accordance with a normal habit of this species.

A. F. GANIER, Nashville 12, Tenn.

THE GOOSE AND THE EAGLE

This whole story was made possible in the early days of Jan. 1959, when one of the hunters shooting from a blind on a fifteen acre peninsula which juts westward into Big Sandy embayment of Tennessee-Kentucky TVA lake in Benton county, Tenn., happened to break the right wing, at elbow joint, of a fine courageous, Canada goose. The goose was none-the-worse otherwise, and outran the eager hunter in a fair race to the waters edge, and made haste to swim to the exact center of the large open expanse, where it spent the entire day. This placed her about one fourth mile from the hunters in the blind, in plain view.

As the writer, and a friend were planning to occupy the blind next day, we were briefed on the location of the wounded fowl, which was over the line in the safety of the wildlife refuge. We could only look at it, and hope. So we made sure to take along a fine 15x65 binocular glass.

Now this was the day the winters worst cold-wave started, and as the dawn gave way to the light of a half sunny day, my hunting companion, Phil Carman, reached for the binoculars, to see if the goose was still there. Sure enough she was at exactly the same location, and what was more, the whole expanse of water was solidly frozen over, and thick, not a ripple. We believed she had been trapped by the freezing ice, but to our surprise a little later, we saw her stand up and walk about on the ice, in good condition, but still careful to stay in the middle region for safety. We marveled at the skill which permitted the goose to mount the ice as it froze over. We watched her almost constantly during the morning, and kept piling on the charcoal to keep the fire-bucket going, as it was really long-handle weather.

Then about eleven o'clock, it happened. We noticed one of the few Bald Eagles that winter in the region, lowering its flight pattern in the direction of the goose on the ice. We shuddered to think of what we were about to watch happen. The binoculars changed hands rapidly. The can of stew which had been heating on the fire bucket was forgotten. He's going in for the kill, said Phil, and sure enough the eagle lit on the ice five feet from the goose. Now this was not a fully mature eagle with white head and tail, but the wing-spread appeared to be well over seven feet. I understand that the transformation takes place at about three and a half or four years of age. Now with the eagle standing on the ice, we expected to see him advance and take on some dinner, but the betting odds changed, miss goose extended her neck menacingly and apparently hissing, charged (almost) into grips with the eagle, causing him to take fright and lean backward on his heels, stubbing his tail feathers onto the ice as a prop to prevent falling over backward. You could see that the goose knew something about that old 'addage' that a spirited attack is the best defense. We watched this sparring and bluffing for at least half an hour, with no contact being made. Finally the eagle decided on a change of strategy.

He took to the air and maneuvered out over the ice about fifty yards and wheeled back in a low flight straight over the goose, trying to lash out with a powerful stroke of the talons to the head, which was smart thinking, but quickly the goose flattened its neck and body on the ice, at the moment of the pass over, then quickly standing up to watch the surprised eagle turn back for another try. This was repeated eight times, and was quite a show. But the fact that the eagle had to have at least two feet of clearance above the ice in which to make wing strokes, and his short legs could not

reach the flattened goose, finally convinced the eagle that he had just better go on off into the western sky and forget the whole thing. He is most likely wiser and will some day wear the prime white feathers and proudly be our NATIONAL BIRD.

This goose reminded me of our hero, John Paul Jones, bless him. Creatures of nature are so interesting, and some of them surprise us with their bold courage.

C. L. BARKER, Camden.

EVENING GROSBEAK VISITANTS.—Records continue to come in on the unusual visitation of Evening Grosbeaks *(Hesperiphona vespertina)* to Tennessee following the severe and protracted snow and cold of February 1960. On Signal Mountain, near Chattanooga, Mrs. Claude R. Givens reported that a flock remained with her thruout March and that she fed them regularly on sunflower seed. At Pikeville, 40 miles north and at the head of the Sequatchie valley, Clyde McCollum had a flock of at least 30 from the middle of February into April. When not at his feeding shelves they were busy eating berries in the hackberry trees. At Waynesboro, southwest of Nashville and 20 miles north of the Alabama line, Mrs. James L. Harden observed a flock there early in March that remained into April. She reported them eating seed from the box-elder trees and said they were easily approached.

These and other scattered reports represent perhaps but a fraction of the flocks that were present in Tennessee last spring but which were unreported because of people not recognizing them as rarities.

ALBERT F. GANIER, Nashville 12, Tenn.

EVENING GROSBEAKS AT CHATTANOOGA.—The first report of this species that reached me indirectly was of one individual seen in December. Though interesting, this did not cause any great excitement because the bird was not seen a second time.

However, on January 22 our member, Miss Gladys Conner, telephoned to say that there were several Grosbeaks at her feeder. As the days passed the numbers increased, and practically all members of the chapter went to see these birds. Other members, Mr. and Mrs. Clarence Prestridge, Mrs. A. C. Willingham, and Mr. and Mrs. T. S. Barr acquired feeding flocks on January 24, February 10, and February 15 respectively.

Mrs. Willingham banded 14 individuals, and on several occasions she saw an albino. Some of the flocks consisted of up to 100 birds. As usual, they fed heavily in the morning and then disappeared each day by early afternoon. All members were asked to follow up on reports of possible Grosbeaks that came to their attention. This resulted in bona fide reports of Grosbeaks at 7 locations on Signal Mountain, 2 on Lookout Mountain, 3 in the White Oak section of the city, and 1 flock in Ooltewah, a small town near Chattanooga. It is quite possible that the Signal Mountain birds moved about from one feeding site to another and didn't actually represent 6 distinct flocks.

Last dates for the area were May 3 in White Oak, May 7 on Lookout Mountain, and May 9 on Signal Mountain. This latter group fed until 5 p. m. on their last day.

MRS. E. M. WEST, 2914 Haywood Ave., Apt. 1-D, Chattanooga 5.

A SHORE BIRD EXPEDITION TO THE TENNESSEE RIVER.—On May 1, 1960, four Nashville members of the TOS, Henry Parmer, Dan Schrieber, Alan Munro, and John Ogden, spent the day at the Tennessee National Wildlife Refuge which is located in the river bottoms at the junction of the Tennessee and Duck rivers. The primary purpose of our trip was to look for migrating shore birds which might have been moving down the Tennessee Valley.

There was general disappointment that the water was so high resulting in an almost total absence of mud flats and open beaches. Most of the day was spent covering different parts of the refuge looking for suitable shore bird areas and during this time few shore birds were found. Finally late in the afternoon we decided to put Mr. Parmer's boat into the water that extended out over much of the large grassy river bottoms since this area could not be adequately studied from the roads. These bottoms had been partly burned over before water had risen into them and it was in these partially submerged burnt over areas that we began to find a fairly large number of shore birds. There were also other shore birds feeding in the shallow water back in the grass but I am sure we overlooked many of them because of the thickness and height of the grass which obstructed our visability and because the water was too shallow for our boat to allow us to get into these areas.

The following are the shore birds that we did find and the numbers of each: Semipalmated Plover, 3; Killdeer, 4; Golden Plover, 1; Spotted Sandpiper, 2; Solitary Sandpiper, 2; Greater Yellowlegs, 10; Lesser Yellowlegs, 40; Pectoral Sandpiper, 9; White-rumped Sandpiper, 2 and Semipalmated Sandpiper, 4. The Golden Plover was in breeding plumage. The numbers given for the two species of Yellowlegs are estimates because these birds were spread through out the grassy river bottom.

Other interesting features of the trip were the large numbers of swallows of all species, the fact that we found five species of ducks that late in the spring, (Mallards, Black Ducks, Blue-winged Teals, Wood Ducks, and Lesser Scaups), and of course the usual large numbers of herons and egrets. The total number of species for the day was 68.

JOHN OGDEN, 515 Fairfax Avenue, Nashville 12.

WOOD DUCKS NEST IN TOWN.—Wood Ducks do not often nest a considerable distance from water and it would not be expected that they would nest within three blocks of the center of a city of 12,800 people. The fact that this happened this year at Dyersburg, Tenn., would seem worthy of record. In the rear of my home there is a deep and narrow tree-filled little valley lying midway between College and Phillips streets which are 500 feet apart. Both streets are completely built up with homes. On three or four occasions during the latter part of June I saw a Wood Duck fly out of this bit of woodland and judged she had found a nesting site in a cavity of one of the large trees. On the morning of June 27, the female and eight little ducklings were seen crossing College street and heading southward thru the high school grounds, presumably on the way to the Forked Deer river a mile away. There were five or six blocks of houses still to be passed but fortunately, rain was falling and most pedestrians were indoors so we hope they got thru without being molested.

ROGER GANIER, 300 College St., Dyersburg.

BREWSTER'S WARBLER NEAR NASHVILLE.—On the afternoon of April 17, 1960, Henry Parmer and I were at Two Jays, the Nashville chapter's sanctuary on the South Harpth River bordering the Davidson, Cheathum County line. We were looking for new migrants as there had been much migrational activity and resulting new arrivals for the past three days. As we were leaving we ran into a little flock of migrants in the river bottom which made the trip a success. It contained several new arrivals including two which we were especially proud of finding due to the fact that they were somewhat earlier than normal. These two were the Rose-breasted Grosbeak and Wood Peewee. But by far the highlight of the little flock was a Brewster's Warbler *(Vermivora leucobronchialis)*. We first saw it low in a tree in front of us. When I first saw it, I remarked that it was a Golden-winged Warbler but almost instantly after this the bird turned around and to my great surprise it had a clear white throat. The following markings were observed on the bird which I now quote from notes taken that day. The bird was, "similar to a Golden-winged Warbler except it had a clear white breast and underparts and only a thin black line through its eye. The only yellow was on its forehead and its wide wing bar. There appeared to be a slight greyish shading along the back of the auricular patch."

After Parmer and I got back to the car we compared our observations and both agreed that it was a Brewster's Warbler.

An interesting note was that the Brewster's was on the same limb with a Blue-winged Warbler and after we had watched them for a short time both birds flew off together in the same direction. They flew a fairly long distance and we were unable to find them again.

JOHN OGDEN, 515 Fairfax Avenue, Nashville 12.

TRAILL'S FLYCATCHER.—Late in June members of the Elizabethton Chapter of TOS searched the area in which Traill's Flycatchers had been found nesting the two previous seasons. Five nests were found. Some contained eggs, others young.

Kenneth Dubke had located singing birds of this species in Shady Valley and Laurel Bloomery, both in Johnson County, the latter near Mountain City. On July 3, Kenneth Dubke and the writer searched the Shady Valley location and found only one singing male. He appeared to be on territory but no nest could be found. We then went to the Laurel Bloomery area. There we found three nests in small willows and alder bushes along a small stream and quite close to the highway No. 91. One nest contained eggs, the second—newly hatched young and the third young birds almost ready to leave the nest. This constitutes the second nesting area for this species in East Tennessee, with a probable third in Shady Valley. The airline distance between the two known nesting areas is approximately 30 miles. The Shady Valley area is about 20 miles from the Elizabethton area and 12 miles from the Laurel Bloomery area. The latter two areas are at about 2300' elevation while the Elizabethton area is about 1500'.

Lee R. HERNDON, 1533 Burgie Place, Elizabethton.

WHIP-POOR-WILL AND CHUCK-WILL'S-WIDOW CENSUS

CHATTANOOGA.—Along the top of Signal Mountain, down the mountain on the W. Road and back up on the Ochs Highway (State 58); June 2; 8:30 to 10:00 p. m.; total hours, 1.5; total miles, 21.5; total number of stops, 41; average distance between stops, 0.52 mi.

Whip-poor-wills

Twenty-six whips* heard at 17 stops, for an average of 1.53 whips per stop. (All whips were heard over a continuous stretch of 8.6 miles on or near top of mountain). Twenty-six whips heard in the 8.6 miles gives an average of 3.2 whips per mile.

All whips were heard between 1825 and 2200 ft. elevation. (An altimeter was used and it was possible to read it accurately within about 25 feet).

One whip was flushed from the side of the road at 2200 ft. Its small size made it obvious that it was a whip.

Chuck-will's-widow

Eight chucks** heard at 5 stops. All except one of these 5 stops were along the brow or edge of the Signal Mountain facing Chattanooga. It is believed that these 7 chucks were in and around Chattanooga, and not on the side of the mountain. Four chucks could be heard plainly at one time and could be located rather exactly by the sound of their voices.

The 8th chuck is the most interesting. It was heard at 1650 ft. on the mountain and along the road that produced all the whips. Following are the details of this particular record. At an elevation of 1950 ft. and a mileage reading of 90.2, 2 whips were heard. We then made a quick drop of 300 ft. in about 0.2 of a mile when we stopped and heard the chuck. Immediately, we started climbing again. We stopped at 1700 ft. (no voices), and at 1800 ft. (no voices). At 1900 ft. with the mileage reading 91.1, 2 whips were heard.

The mileage readings just given indicate that the chuck was between whips that were about 0.2 mi. on one side of him and 0.8 mi. in the opposite direction. The difference in elevation between this chuck and the nearest whips was only 250 ft.

It will also be noted that there was no overlap in elevation—all chucks being at 1650 feet or lower and all whips being at 1825 feet or higher.

Although a number of reports have reached me of whips being heard in the city of Chattanooga and surrounding area during the breeding season, I have been unable to confirm any of them.

June 21—Along Georgia State Highway 193, south of Chattanooga, with Lookout Mt. on the right; 8:25 to 9:35 p. m.; 1 1/6 hours; total miles, 16.6; total number of stops, 34; average distance between stops 0.49 mi.

This census was made because Ralph Bullard mentioned hearing chuck and **whips** toward the end of this stretch of road, but we heard no whips.

Thirty-five chucks were heard at 21 out of the 34 stops, for an average of almost exactly 1 chuck per stop. As many as 3 at once were heard at 2 stops; 2 at 10 stops; 1 at 9 stops; 0 at 13 stops.

The first chuck of the evening was flushed from the road at 8:25 p. m.

*Short for Whip-poor-will

**Short for Chuck-will's-widow

MR. AND MRS. E. M. WEST, 2914 Haywood Avenue, Apt. 1-D, Chattanooga 5.

Chuck-will's-widow—Near Chickamauga Creek in Chickamauga National Military Park, Georgia; Habitat, heavy woodland near Creek with nearby open farm fields; May 21; Weather—clear, warm, 72°; Time, 50 minutes; Distance travelled, 6.3 mi.; Elevation, 7-800'; Birds, 11 individuals calling.

ROCK COMSTOCK, 1000 South Crest Road, Chattanooga 4.

KNOXVILLE.—McKamey Road, Amherst Community, N. W. central Knox County; May 27; 9:15 p. m.; partly cloudy, thin crescent moon, about 61°; too dark to see the terrain; 2 chucks heard simultaneously.

Heiskel Road and Raccoon Valley, Northern Knox County; June 2, 8:25 to 9:30 p. m.; partly cloudy—clouded over and rained in Ft. City-Knoxville, on way home from 9:50 on; Half moon, about 66°; Stopped at about ½ mile intervals; 4-5 miles; 9 chucks; 3 in or near Bull Run Creek Valley fields and 6 along Raccoon Valley, narrow, between wooded ridges and some fields.

Seiverville Pike, Bay's Mountain Road, Kimberlin Heights Road, Hendron Chapel Road, south Knox County; June 9; 7:45 to 9:30 p. m.; total miles 9; fair, haze around horizon, moonrise, 8:04 p. m. (full) moon first seen over Bay's mountain; 8:57 p. m., 70 to 72°; wind 0-5 mph. 15 chucks heard.

Nubbin Ridge Road, Ebenezer Road, Gleason Road and Gallagher Road, west Knox County; June 10; 8:05 to 9:10 p. m.; total miles, 7; partly cloudy, moonrise 9:06 p. m.; 77°; wind 0-10 mph; 10 chucks heard, 8 on Nubbin Ridge and 2 on Ebenezer.

Nubbin Ridge, Morrell Road, Redsaile Drive, west and central Knox County; June 10; 8:05 to 9:10 p. m.; partly cloudy, 72°, wind 0-1 mph; total miles, 6 by car; no birds heard.

JOHN AND ELIZABETH ELSON, Knoxville

CHUCK-WILL'S-WIDOW.—For several years we have been listening to the call of the Chuck-will's-widow during the months of May, June and the early part of July; but we were never able to see one. T. Gilbert Pearson has said that they are often heard but seldom seen.

Good fortune came our way on June 23, 1960. It was reported to me that a Chucker's nest had been found on the property of Mr. E. D. Cox. I visited the nest and to my delight it was a Chuck-will's-widow. The location was approximately four and one half miles east of Bluff City, Sullivan County, Tennessee. The nest was at an elevation of approximately 1600 feet on the south side of a wooded knob section about 100 yards from South Holston River and approximately 100 feet above the river. The nest was situated between a Hickory tree and a Pine tree. The foliage was sparse enough so that some sunlight was on the nest at various times during the day. The so-called nest was composed of a few pine needles and one big red oak leaf just as they had fallen from the trees.

When the nest was first visited on June 23, one egg had already hatched. Half of the shell was there which contained some fresh blood indicating that the young bird was only minutes old. On June 24 the second and last egg hatched at about the same time of day as the first one. The eggs were 1 7/8 inches long by 1 inch in diameter, pinkish white, blotched, marbled and spotted with pale buff and brown. The young birds were about the size of a small newly hatched bantam chicken. The Chuck-will's young are covered with down, a rich honey brown color,

Mr. E. H. Dickey, Mr. E. C. King of Bristol, Va.-Tenn. and Dr. Lee R. Herndon of Elizabethton, Tenn. made pictures of the birds at various stages of their development. This is a difficult task even for a professional photographer. The birds, young and old, were so well camouflaged that you could not see them on the ground until your eyes had become adjusted to the surroundings. They were even hard to locate when a marker was placed near the nest.

Due to our frequent visits to the nest the mother moved her young on July 3. Dr. Herndon returned July 4, for further study. It was then that we discovered the birds had been moved. The search was on and soon they were located 35 steps down the hillside to a more secluded spot. At the suggestion of Dr. Herndon an inclosure made from small-mesh poultry wire was placed around the nest so we could observe them longer. When visiting the nest, the mother bird would try to lure us away by flying a short distance, perch horizontally on a limb or on the ground and with a queer cluck cluck in a low, monotone, guttral voice try to divert our attention. If we would follow she would move on a little farther. July 11 Mr. Dickey made more pictures and measured the wing spread of the young birds. It was fourteen inches. That same day they flew away from their troublesome nesting place. Just fourteen days after hatching.

H. W. NUNLEY, Route 3, Bluff City.

NIGHTHAWK CENSUS

While driving to and through the downtown section of Chattanooga enroute to the chuck census area, on June 21, we decided to count Nighthawks.

Eight were seen and heard between the Tenn. river and 11st St. (11 blocks). Three were seen between 11th St. and the foot of Lookout Mt., approx. 2 miles. One was heard in the chuck census area.

MR. AND MRS. E. M. WEST.

ADDITIONS TO THE CHATTANOOGA AREA LIST

WHITE IBIS.—An immature of this species was found on 8-15-60 at Spring Creek by Mrs. Hugh Crownover and has been seen by members of her family, Benton Basham, and others. This is the first record for Hamilton County and the fifth for Tennessee. It is still present as of 8-20-60.

SNOWY EGRET.—During the past 6 years several white herons have been seen that were suspected of being Snowy Egrets; however, it was not until 7-30-60 that a positive identification was made by Adele and Gene West of one individual at Spring Creek. It was seen the next day, and within a few days, two were observed by other members of the chapter.

STILT SANDPIPER.—Three of this species were seen on 8-14-60 at the Long Savannah mud flats by the Wests and on the following day Benton Basham saw one. The 14th was a productive day with 8 species of shorebirds, of which a flock of Dowitchers was the next most noteworthy species. Both the Dowitchers and the Stilt Sandpipers arrived while we watched other varieties. Considerable time was spent with a 20X telescope making sure of these 3 birds which were a "lifer" for the Wests. It was also fortunate that a yellowlegs and other varieties were available for purposes of comparison. A prior record on 9-22-57 at another location has been considered doubtful and was therefore never reported officially.

WESTERN SANDPIPER.—This is another species we have been reluctant to report because of the identification problems. However, on 5-21-60, 3 of these were found by the Wests with Semipalmated Sandpipers at a very unlikely spot near Shellmound, Tenn. They were also seen by others at Spring Creek on 5-22 and 23, and have already returned as of August 2.

MRS. E. M. WEST, 5511 Dayton Blvd., Chattanooga 5.

CONNECTICUT WARBLER.—On May 17, 1960, this warbler was among the migrants in Chickamauga National Military Park—the first known record for this species in the Chattanooga area. It was seen in late morning on a sunny day, under perfect conditions. I crossed a flat, cultivated farm field and approached a heavily wooded area bordering the field. Not only was the forest one of many large trees, but the edging in front of me was a thick undergrowth which virtually hid the forest interior. At a point less than 20 feet from the border, through a small sunlit opening in the foliage, a bird flitted into the light. It stopped where its field marks could be clearly seen—gray head and neck sharply defined from the yellow underparts, and a very clear white eye ring. With 7x50 binoculars, each field mark stood out. Then, in what seemed little more than a moment, the bird disappeared into the dense thicket, not to be seen again.

A note in Bent's **Life Histories of North American Warblers** reports that in migration it "keeps in the shelter of low brush and thick undergrowth" and that it rarely ventures more than a few feet above the ground. This individual was seen no more than 4 feet from the ground and in the proper habitat.

ROCK L. COMSTOCK, JR., 1624 Rugby Pl., Chattanooga 11, Tenn.

CAMPUS BIRD COUNT

THE UNIVERSITY OF TENNESSEE, Knoxville.—May 15, 1960; 6:30 a. m. to 3:30 p. m. EST; 50 to 80°, fair, wind, 5-15 m.p.h.; 650 acres—lawns with trees and buildings, 20%; woods and edges, 35%; farmland 25%; orchards, 10%; athletic field, 5% and water 5%. The following list of birds was tabulated: Green Heron, 4; Bobwhite, 6; Rock Dove, 31; Mourning Dove, 40; Yellow-billed Cuckoo, 2; Nighthawk, 1; Chimney Swift, 17; Flicker, 1; Pileated Woodpecker, 1; Red-headed Woodpecker, 3; Wood Pewee, 1; Rough-winged Swallow, 3; Purple Martin, 3; Blue Jay, 15; Common Crow, 6; Carolina Chickadee, 7; Tufted Titmouse, 6; Carolina Wren, 4; Mockingbird, 27; Catbird, 2; Robin, 3; Wood Thrush, 5; Swainson's Thrush, 2 (1 singing); Blue-gray Gnatcatcher, 15; Cedar Waxwing, 9; Starling, 70; White-eyed Vireo, 3; Red-eyed Vireo, 11.

Yellow Warbler, 8; Chestnut-sided Warbler, 2; Bay-breasted Warbler, 2; Blackpoll Warbler, 3; Yellowthroat, 2; Yellow-breasted Chat, 7; Canada Warbler, 5; American Redstart, 5; House Sparrow, 7; Eastern Meadowlark, 6; Redwinged Blackbird, 6; Common Grackle, 24; Brown-headed Cowbird, 8; Scarlet Tanager, 2; Summer Tanager, 5; Cardinal, 10; Rose-breasted Grosbeak, 5; Indigo Bunting, 5; American Goldfinch, 4; Rufus-sided Towhee, 8; Chipping Sparrow, 4; Field Sparrow, 5 and Song Sparrow, 6. TOTAL, 51 species, 437 individuals.

Other Wildlife: Mammals, Gray Squirrel, 5; Chipmunk, 3.

Observers: John Elson, David Highbaugh, Paul Pardue, Mr. and Mrs. George Wood, all of Knoxville chapter TOS.

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BOOK REVIEW

Bent's Life Histories of North American Birds
Edited and abridged by Henry Hill Collins, Jr.

The material presented in these two volumes covers over 300 water birds and birds of prey and 300 land birds. These abridgements, which are full excerpts and not condensations, depict outstanding and distinctive characteristics of the species. They were selected from the twenty volume series of **Life Histories** published between 1919 and 1958. Bent's own travels and observations have been supplemented by more than 200 other observers, whom he thought could present a better picture than he because of their familiarity with the species. Many of these have been quoted in these volumes.

Technical data, pictures and field marks have been omitted. Little aid to identification has been provided in contrast to the original works, which were often consulted after trips afield for further confirmation than that provided by other ornithological publications. The subject matter varies from species to species. The nest, eggs, young, courtship behavior, colinization or some peculiar characteristic of individuals may be the subject of consideration.

On the average, about one page of easy reading and delightfully interesting material has been devoted to each species. For the casual observer who knows little about birds, the general information would be of interest and might increase his desire to know more about birds but for the serious bird student they leave much to be desired.

Published by Harper and Brothers, New York, 1960. Volume I, Water Birds, Volume II, Land Birds, 8½ x 5½ in., 356 and 374 pp. $5.95 each.

LEE R. HERNDON.

IN MEMORIAM

ERNEST W. GOODPASTURE, internationally known pathologist and a member of the Institute's first Board of Directors, died in Nashville on September 20 at the age of 73. A member of the ORINS Board from 1946 until 1952, Dr. Goodpasture pioneered research that led to mass production of vaccines against yellow fever, influenza, small pox and typhus fever. He developed the idea of using live chick embryo for cultivating viruses to be used in vaccine in 1931, while a professor of pathology at Vanderbilt University Medical School.

TOS extends sincere sympathy to Mrs. Goodpasture in her bereavement.

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BIRD MIGRATION CASUALTIES AND WEATHER CONDITIONS AUTUMNS 1958 - 1959 - 1960

By AMELIA R. LASKEY

Collecting of night-migrating bird casualties at WSIX television towers in Nashville, Tennessee was started in autumn, 1956, and has been continued on a daily basis each fall period since then although no detailed reports have been published for 1958 and 1959. Therefore this account includes these two intervening years as well as for autumn of 1960.

In 1956 from Oct. 5-19, the casualty list was 68 birds of 27 species (MIG. 27:66-67); for 1957 from Sept. 23 to Nov. 15, the total was 704 birds of 67 species (MIG. 28:54-56).

For 1958 from Aug. 26 to Nov. 9, the casualties numbered 223 birds of 55 species and a red bat; for 1959 from Sept. 11 to Nov. 14, the total was 562 birds of 59 species and another red bat. But 1960 brought the most disastrous season with a casualty list of 1553 birds of 65 species at WSIX from Sept. 10 to Nov. 13 and at the new WSM television tower 2130 birds of 59 species, representing only six collections there. Thus the collected casualties from the two towers reached the alarming total of 3,683 birds of 77 species.

ACKNOWLEDGMENTS

At WSIX, Mrs. Clara W. Fentress, Mrs. Ruth Lawrence during each period and Mrs. Sue M. Bell (on Sept. 28, 1960) cooperated in gathering the casualties.

At WSM in 1959, H. E. Parmer gathered 54 birds one morning which were brought to me.

In 1960 at WSM, the bulk of the collecting was done by personnel of Tennessee Game and Fish Commission (Sept. 27, 28, 30, Oct. 17). These birds were brought to me, were identified and listed with the assistance of Will Hon of the Commission. H. E. Parmer helped in the collection on the latter date. On Oct. 16, my husband helped me in the collection there. On Sept. 28-29, 1960, Alan R. Munro and J. C. Ogden spent most of the night at WSM. They found birds falling after midnight, collected and identified 321 birds which are included in the totals given in this report (see account elsewhere in this issue).

WEATHER CONDITIONS

As stated in my 1957 report, the heaviest kills coincided with certain weather conditions: the approach and passing of a cold front with northerly winds, usually overcast skies and often some precipitation. As all of these "cold fronts" do not produce really cold weather here, merely lowering the mean temperature, an examination of the daily weather maps was very

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helpful in pre-determining casualty periods and, in later studies, migration trends. On some foggy mornings when one would expect to find casualties, there were none although tower and cables were shrouded in mist. This seems to indicate that migrations were light during these intervals between cold fronts or the possibility that birds may fly above the clouds. A comparison of weather conditions and migrations further north with those of Nashville may answer some of the questions.

In 1958 the casualty list was comparatively low as fine weather prevailed through most of the fall season. Sept. 11 took heaviest toll, 47 of the total of 223 birds.

In 1959 the bulk of the total kill of 562 birds occurred on Sept. 30 (391 casualties) with 41 on Oct. 1 and 40 on Oct. 9.

In 1960 a different wind pattern preceded the beginning of the heavy kills of late Sept. A cold front passed through Tennessee on Sept. 20 (north wind), but only 3 birds were found at WSIX. With a cold front arriving Sept. 25, southerly winds (ESE and S) prevailed through Sept. 27, but at WSIX on Sept. 26 which was mostly overcast, we gathered 31 casualties. On Sept. 27 with ESE winds, we had drizzly overcast with the stationary cold front. Casualties were heavy, 238 at WSIX and 523 at WSM. On Sept. 28 with northerly winds, drizzles and the cold front still in the Nashville area, the casualties mounted to a total of 1597 birds (598 at WSIX and 999 at WSM).

On Sept. 29 and 30, the combined totals for both towers were 517 and 336 respectively. On Oct. 1, no collections were made at WSM, but there were 27 at WSIX as the cold front moved out of Tennessee. The daily collections diminished at WSIX to ten birds on Oct. 7, reaching a small peak at the next cold front, Oct. 16 (89 birds) and Oct. 17 (70 birds) for the combined collections at WSIX and WSM.

In late Oct. and in Nov., migration had apparently tapered to low numbers, but at WSIX on Oct. 20, a dead female Mallard lay in the sedge field under cables, in good condition except that one wing had been completely sheared off. Coots were found on Nov. 10-11-13, several of the late-migrating warblers and a number of fringillids to Nov. 13 and no casualties after that date.

WSIX AND WSM TELEVISION TOWERS

This year, Charles Duke, engineer at WSIX, gave me exact measurements of the towers there which will correct the approximate measurements given to me previously by someone else and published in the earlier Migrant reports. The low tower is 247 feet in height, the high tower is 940 feet. The longest cables are 1081 feet and are attached to the tower 863 feet above ground, terminating (with other cables) at 600 feet from the tower. Mr. Duke gives the hill altitude at 1114 feet above sea level.

With a compass, I have determined that one group of cables extends NW from the tower, one group extends NNE and the third group extends south. The largest numbers of casualties were found near and beyond the first two groups of cables which the migrants meet before reaching the high tower or the set of cables extending south as they fly from the north in fall. When mortality is heavy, many birds, especially thrushes strike the NW cables and are scattered in a broad area, extending 300 or more feet down the wooded rocky hillside.

Since the addition has been built to the studio, a considerable number of birds fall on the roof after striking the NNE set of cables or the low tower which is near them. These casualties constitute a problem as there is no way for a woman to get to the roof. Collections there which are made by the porter are too widely spaced to gather all birds before deterioration is advanced.

WSM tower, located on a hill 630 feet in altitude, was erected in 1958 when published specifications were given as 1369 feet in height (including antennae of about 116 feet). The longest cables are 1600 feet.

From maps, H. C. Monk has furnished measurements of distances between the two towers and other details of distances with their possible bearings on migratory flight. The two towers are approximately 7 miles apart, WSM being north-northwest of WSIX. If migrants were moving on a true south course, transients passing one tower would miss the other by 2.2 miles or, in other words, would pass both towers only if traveling in fall on a course nearly south-southeast. These comments are of particular interest when a comparison is made of the birds found on the nights when casualties were collected at both towers. While the bulk of them consisted of the various species usually gathered at ceilometers and towers here, especially vireos and warblers, the WSM lists contained some species not obtained this year at WSIX: Black-billed Cuckoo, Yellow-bellied Sapsucker, Solitary Vireo, Worm-eating (new late departure Sept 28 and 30), Parula, Yellow-throated, Blackpoll, Pine, Mourning Warblers and Grasshopper Sparrow, also two species which have not been collected in the five years of work at WSIX: Whip-poor-will and Sharp-tailed Sparrow.

On the other hand during the same period of late Sept. several species were found at WSIX only: Blue-winged Teal, House Wren (4 in all), Brown Thrasher, Orange-crowned and Wilson's Warblers. These differences may be only coincidental and may be eliminated if investigation continues at both towers simultaneously. There is considerable evidence that birds of a species may migrate in groups or in a flight line, judging from proximity of some of the casualties of a kind.

CASUALTY LISTS

At WSIX in 1958, uncommon birds collected included a Virginia Rail on Sept. 11 and a Mourning Warbler on Sept. 12. Red-eyed Vireo led in numbers, 20, with Ovenbird next, 13.

In 1959, WSIX records of greatest interest were a Great Blue Heron on Sept. 30, a Blackpoll Warbler on Sept. 11 (identification verified by Dr. A. Wetmore), our second authentic fall record, Mourning Warbler on Oct. 28 (a new late departure date), a Grasshopper Sparrow on Sept. 30. That year the Yellowthroat led in casualties with 95 (82 of them on Sept. 30), Ovenbird 69, Magnolia Warbler 55, Catbird 42, Am. Redstart 36, Swainson's Thrush 29, Rose-breasted Grosbeak 21, Red-eyed Vireo 18, Tennessee Warbler 18.

Among the 54 gathered at WSM in 1959, 13 were Magnolia Warblers and 9 Ovenbirds. A Parula Warbler proved to be a new late departure date, Oct. 9.

In 1960 the casualty list yielded some species not previously found at the towers, a Blue-winger Teal on Sept. 28 and the female Mallard on Oct. 20; Black-billed Cuckoos (4) in the puzzling plumage of first-year birds on Sept. 27-28, Oct. 17. Also there were specimens of rarities seldom seen in the field: Virginia Rail (2) and Yellow Rail (3), furnished a new

early arrival date, Sept. 10, for the former and our third, fourth and fifth records and latest departure date (Oct. 18) for the latter. The Sora of Oct. 16 is our latest departure date for that species. A Blackpoll Warbler of Sept. 27 is our third fall record (all are casualty specimens). The Sharp-tailed Sparrow of Sept. 28 is the third specimen for Tennessee of this species.

The 1960 casualty list was headed by the Ovenbird, 793; Red-eyed Vireo, 527; Tennessee Warbler, 456; Magnolia Warbler, 303; Catbird, 219. Most of the Catbird casualties occurred on the night of Sept. 27-28. Among the 140 found on the morning of the 28th at the two towers was one carrying Fish and Wildlife Service band No. 58-137423. This bird was banded as an adult, May 19, 1960 at Lisle, Illinois by Dr. Edmund Jurica.

The following tabulation will show the numbers of each species collected at the two television towers in 1960. The first figure is for WSIX and the second figure for the six collections at WSM. A single figure is a WSIX record and a single figure with an * denotes a WSM record.

Mallard, 1; Blue-winger Teal, 1; Virginia Rail, 1, 1; Sora, 3, 2; Yellow Rail, 1, 2; Coot, 3; Yellow-billed Cuckoo, 1; *Black-billed Cuckoo, 4; *Whip-poor-will, 3; Flicker, 1; *Yellow-bellied Sapsucker, 2; Yellow-bellied Flycatcher, 2, 2; Traill's Flycatcher, 1, 2; Wood Pewee, 4, 10; Brown Creeper, 2; House Wren, 4; Long-billed Marsh Wren, 3, 6; Catbird, 155, 64; Brown Thrasher, 1; Wood Thrush, 18, 8; Hermit Thrush, 2, 1; Swainson's Thrush, 61, 21; Gray-cheeked Thrush, 95, 13; Veery, 1, 1; Ruby-crowned Kinglet, 1; White-eyed Vireo, 3, 9; Yellow-throated Vireo, 4, 12; *Solitary Vireo, 1; Red-eyed Vireo, 128, 399; Philadelphia Vireo, 18, 25; Black-and-white Warbler, 20, 47; *Worm-eating Warbler, 2; Golden-winged Warbler, 4, 2; Tennessee Warbler, 167, 289; Orange-crowned Warbler, 1; Nashville Warbler, 6, 7; *Parula Warbler 2; Yellow Warbler, 2, 1; Magnolia Warbler, 141, 162; Black-throated Blue Warbler, 1, 2; Myrtle Warbler, 2; Black-throated Green Warbler, 19, 21; Cerulean Warbler, 2, 2; Blackburnian Warbler, 23, 21; *Yellow-throated Warbler, 4; Chestnut-sided Warbler, 41, 70; Bay-breasted Warbler, 35, 88; *Black-poll Warbler, 1; *Pine Warbler, 1; Palm Warbler, 20, 28; Ovenbird, 256, 537; Northern Waterthrush, 12, 20; Kentucky Warbler, 6, 10; *Mourning Warbler, 3; Yellowthroat, 49, 67; Yellow-breasted Chat, 8, 60; Hooded Warbler, 1, 1; Wilson's Warbler, 3; Canada Warbler, 4, 3; American Redstart, 59, 38; Bobolink, 12, 8; Rusty Blackbird, 1; Scarlet Tanager, 9, 6; Summer Tanager, 2, 1; Rose-breasted Grosbeak, 11, 11; Indigo Bunting, 13, 8; Dickcissel, 4 8; Savannah Sparrow 1, 1; *Grasshopper Sparrow, 1; *Sharp-tailed Sparrow, 1; Vesper Sparrow, 1; Chipping Sparrow, 1; Field Sparrow, 1, 1; White-throated Sparrow, 7; Fox Sparrow, 1; Swamp Sparrow, 4, 7; Song Sparrow, 3.

In addition there were 85 casualties which were unidentifiable because of their condition when found on the ground or were left on the roof by the porter at WSIX because they were too badly infested with fly larvae.

In Sept. and the early part of Oct., our warm weather and the abundance of flesh-eating insects cause rapid destruction of the tower victims. Ants immediately swarm over the bodies. From an incomplete collection of these insects which was sent to Marion R. Smith of the U. S. National Museum, he identified eight species of worker ants. Fly larvae hatch quickly and an unidentified black larva becomes numerous on the birds. Flesh-eating animals also seek food among the casualties. However, many of the remains are still identifiable by an experienced person after mutilation.

Some twenty crippled birds were captured, but few survived. Four Red-eyed Vireos, one each of Tennessee, Nashville, Bay-breasted Warblers and an American Redstart were released wearing bands.

OTHER HAZARDS TO NIGHT MIGRANTS

Some information has been gathered from other potential hazards to night migrating birds in Sept. and Oct., 1960 in Nashville.

On Sept. 11, Paul New, meterologist at Berry Field (Municipal Airport), informed me that a concentration of birds had been flying in the ceilometer beam from 2:00 to 4:00 a.m. and that he had placed the shield over the bright beam, operating on the ultra-violet rays, which caused the dispersal of the birds without casualty. On Oct. 5, a threatening evening with a stationary cold front and showers, I went to Berry Field and found that the ultra-violet beam was scarcely discernible and a few birds were observed flying through it without pausing. Our Nashville Weather Bureau deserves commendation for the cooperation of most of the personnel in bird protection.

On three dates in Sept. and Oct. about 7:00 a.m. J. B. Werner rescued three warblers (Black-and-white, Magnolia, Ovenbird) found stunned on streets near Life and Casualty Building in the business section. At each occasion on bringing them home, I found that they had regained flight and could be released immediately with bands.

1521 Graybar Lane, Nashville, Tennessee.

OBSERVATIONS AT A T. V. TOWER DURING A BIRD FALL

During the past fall, we in Nashville experienced a large number of bird casualties at our television towers. During one week in late Sept. there were particularly heavy bird falls and it was on one of these nights, Sept. 28, 1960, that Alan Munro and the writer made observations at WSM-TV tower in West Nashville. This tower is a three sided structure with 24 guide wires and its height combined with the altitudes of the hill on which it is located is over 2000 feet.

On Wednesday evening, Sept. 28, following a T.O.S. meeting we decided to visit this tower, to see if any birds were falling that night. We arrived at the tower about 10:30 p.m. and found that no birds were falling, so to keep the trip from being a complete loss we decided to look for birds that had fallen on previous nights and had not been picked up. The base of the tower was well lighted by a large spot light and we also had a flashlight to help us in our hunt. During the next hour and a half, about 20 birds were picked up in good enough condition to identify, including a Philadelphia Vireo and a Northern Waterthrush.

During the entire night the writer made chip counts, that is, the number of calls in a 60 second time interval. The chip count is not the number of birds that were calling in any one minute because some birds called two or more times before they got out of hearing distance. The count number can be used only as a comparative number to determine the increase or decrease in birds calling at any one time. The chip count at 10:30 p.m. was 10 calls per minute, at 11:30 it was 45 calls per minute, and at midnight it was 65 calls per minute.

At the time we arrived the sky was only partly overcast and the cloud ceiling was above the top of the tower. The wind was light from E.N.E. Between 12:00 and 12:30 a.m. the ceiling became completely overcast but did not drop any. At the same time the chip count increased rapidly until there were 110 calls per minute at 12:45 a.m. Also around 12 or a little after, it sounded as if individual birds were remaining in the vicinity of the tower, possibly circling it, rather than just passing the tower as they seemed to have been doing earlier. We were not able to observe this with the warblers since so many were calling at one time that no one bird could be traced by its notes, but we could follow some of the more distinct notes of less common birds such as thrushes or finches throughout the morning hours.

About 1:00 a.m. the clouds broke up again and the sky returned to the partly overcast state that had existed before midnight. Also the chip count dropped to between 75 and 95 calls per minute, from 1:00 a.m. through the rest of the morning hours until 5:15 when it dropped rapidly and no birds were heard after 5:30.

The birds began to fall at the time when the sky was completely overcast and the chip count was near its highest count, which was about 12:30 a.m. They fell at a steady rate until the last one was seen to fall about 5:00 a.m. Most of the birds fell either right under the tower or to the south or southwest of it. With only a very few exceptions all of the birds that fell on the paved parking lot on the south side were dead when picked up. However a large percentage of the birds, over 50%, which fell in the grassy areas that existed elsewhere were not dead when picked up. In fact several times birds were found sitting on the ground and appeared to be sleeping, for when they were touched they immediately awoke and flew away. But most of the birds that were not dead, were definitely injured to some degree. These birds were collected along with the dead ones on our periodic trips around the top of the hill every 15 minutes or less. We kept all the birds grouped according to species on the large concrete base of the tower.

The injured birds could be divided roughly into three groups. The first group was those birds that were badly injured and could not stand up. All of this group died soon after being picked up. This group was also the largest. The second group was moderately injured birds that could stand up. Most of these birds sat around on the tower base half asleep. Many of these birds died during the night, however a few recovered and during the first few minutes of daylight they flew to nearby trees. The third group and probably the smallest was those birds only slightly injured that almost continually moved around on the tower base and occasionally made short flights. Most of these birds did apparently survive and all that were not already gone, did leave at daylight.

As the night passed there were increasingly large numbers of uninjured birds flying around near the ground and sitting in the shrubs near the W.S.M. tower. Several times the writer observed birds sitting on the tower within 50 feet of the ground. There may have been a relationship between these birds and the ones we found sitting on the ground sleeping.

We observed that while the total volume of falling birds remained fairly constant, several species were picked up in larger numbers for a fairly short time, and then would be scarce or absent the other hours of the night. There were several examples of this. Few of the larger birds

were picked up until after 4:00 a.m. when several tanagers, grosbeaks and Catbirds were collected. Another example was the Palm Warblers, half of which were picked up in one half hour period. The four most common species, Red-eyed Vireo, Ovenbird, Magnolea Warbler, and Tennessee Warbler were picked up fairly steadily all night with the exception of the Ovenbirds which increased and decreased several times during the night.

As it began to get light the birds stopped falling, and soon no calls could be heard. During the night we picked up 321 birds of 30 species, most of which were warblers and vireos.

Although we were very tired, wet, and hungry the following morning, we considered our experience a very worthwhile one for several reasons. These bird falls are not only valuable in learning which species pass through an area, but also as a possible way to study certain aspects of the process of migration itself. The falls also provide birds which can be made into skins for study purposes. Several of these skins have been prepared by Alan Munro from the birds collected on this night.

JOHN OGDEN, 515 Fairfax Ave., Nashville 12, Tenn.

FURTHER OBSERVATIONS AT BUSH LAKE

By HENRY E. PARMER

This is a continuation of observations at Bush's Lake and Farm in north Nashville as reported in THE MIGRANT, **29**:52-54, 1958 and **30**:33-34, 1959. The period reported on below was from May 14, 1959 to May 13, 1960. Five unusual records for the period were reported in THE MIGRANT, **30**:35, 1959.

Records were kept for 166 trips. On many trips little or nothing of interest was seen and no records kept. A total of 109 species were observed on the farm for the period. All observations were through 7 x 35 binoculars. Most trips were between 8 and 9 a.m. and of 30 to 60 minutes duration. Weather for summer and fall was about normal. Dec. was very cold with some ice on the lake; Jan. was normal; Feb., Mar., Apr. and May set new average cold records here. Snow totalled 38.5 in. for a new local record. It covered the ground from Feb. 13 to Mar. 20. Several trips were postponed as the writer could not find the farm roads under the snow.

In early Feb. the lake was drained. The entire mud bottom was exposed during Mar. The writer had expected that this condition would be most favorable for shore birds, but this did not prove to be so. On Apr. 7, the small upper lake was full and by May 1 the larger lake was filled and higher than normal. In other areas here very few early shore birds were seen and the main migration of these birds was in May. Fishermen were excluded from the lake after Jan. due to a restocking program. Some dove hunting was permitted in early fall. The names used and the order of listing conform to the current A. O. U. check-list.

Common Loon: Oct. 27 (1), then 2 to 3 until Nov. 30 (1); an exception to this was a flock Nov. 16 (13). Horned Grebe: Oct. 14 (1), then Nov. 12-24 (1). Pied-billed Grebe: Aug. 31 (1); Sept. 11 (7), then 1 to 2 until Nov. 7 (1). Apr. 11 (2) were the first of spring; the last May 11 (1). Anhinga: This is a rare bird at Nashville. One stayed less than an hour at noon on Oct. 21. Great Blue Heron: July 13 and 23 (1), then 1 to 2 during Nov. Mar. 19 (1), Mar. 22 (2), and Apr. 9 (1). Green Heron: July 13 (2), twice in Aug. (1) then Sept. 8 (3). Black-crowned Night Heron: These Herons nest 3.5 air miles from the lake and some most surely visit it nearly every night of the year. On July 6 at dusk 20 were seen to fly in to feed. During

early winter on 5 occasions dead singles were found that had been caught in muskrat traps and drowned. Canada Goose: Mar. 30 (1). Blue Goose: Oct. 21 (10) on the lake, 5 were mature Blues, 4 were immature and 1 a hybrid between Snow and Blue. They stayed and on the night of Oct. 28 (3) were killed; 7 remained until Nov. 2. Mallard: Nov. 2 (2), then 2 to 5 until Dec. 10 (4). Black Duck: Apr. 11 (5); 2 left on Apr. 13 and 3 remained past May 13, the limit of this paper. Gadwall: Oct. 19 thru 27 (5-6). American Widgeon: Nov. 17 (1); Mar. 17 (11). These were down to 6 that were paired on Mar. 21. Pintail: Oct. 26 (1); Nov. 10 thru 13 (1); Feb. 11 (2). Green-winged Teal: Nov. 20 thru 30 (2). Blue-winged Teal: Aug. 15 (1); Sept. 29 (1); Sept. 30 (16), and Oct. 9 (10). For spring—Mar. 19 (8); Apr. 15 (1), a peak Apr. 20 (18) and the last Apr. 29 (2). Shoveler: Mar. 21 (1) and Apr. 27 (2). Wood Duck; Oct. 30 (1). Ring-necked Duck: The first and largest flock Nov. 2 (32), then 2 or 3 until the last Nov. 24 (11); Mar. 19 (3) then May 5 thru 12 (1). Canvasback: Nov. 30 (5); during Dec. (6-12), a peak Jan. 12 (26), then fewer each trip until the last, Feb. 12 (10). Greater Scaup: Very rare here. On nearby Cumberland River Dec. 3, 4, and 6 (19). Lesser Scaup: May 26 (8) were the last for spring 1959. The first of fall arrived as the writer was at the lake about noon Oct. 29 (15). In Nov. (1-4) until Nov. 30 (11). The peak was Dec. 10 (20), then Jan. 7 (5); Jan. 11 (6) and Mar. 22 (2). April had from 1 to a peak of 10 on the 29, then May 11 (3). Common Goldeneye: Nov. 20 (1); Dec. 1 (1), and Dec. 3 (2). Bufflehead: Nov. 17 (12), down Dec. 20 (4), then thru Dec. 11 (1). Ruddy Duck: Nov. 17 (4), then thru Dec. 3 (3); Apr. 13 (3). Hooded Merganser: Dec. 3 (1) male. Common Merganser: Nov. 16 (12) and Nov. 17 (2). Red-breasted Merganser: Nov. 16 (2).

Turkey Vulture: Seen only once, Oct. 21 (1). Cooper's Hawk: At the edge of the lake Sept. 11 (1). Red-tailed Hawk: 1 occasionally during winter. Red-shouldered Hawk: 1 in Oct., Nov. and Dec. A pair nested nearby. Marsh Hawk: Sept. 18, 29, and Oct. 26 (1). Osprey: Jun. 23 one was seen carrying a fish weighing about a pound over the lake. It dropped it near the center and left the area. This is a most unusual date for an Osprey here. Sept. 18 and Apr. 27 (1). Pigeon Hawk: One found dead on Sept. 16. It had been killed by a dove hunter about 2 days earlier. A female was found there on Jan. 7. This is our only mid-winter date at Nashville. This bird was in a small willow tree between the road and the lake. The writer examined it for several minutes at about 80 yards; then, he drove up beside the tree and lowered his window. It allowed itself to be examined for about 45 seconds at a distance of only 12 feet. Then it flew across a field and through a large cottonwood tree that was filled with Starlings. These flew and the falcon made 2 lightning-like passes through the flock. Several minutes later she was seen in the top of the cottonwood — without a Starling. Sparrow Hawk: A pair in the area all year and sometimes 2 pairs in the fall.

Bobwhite: 1 male along the river Sept. 21. American Coot: Oct. 14 (1); Nov. 2 (3); Nov. 7 (8); Nov. 20 (1), and April 20 (1). Semipalmated Plover; July 24 and 28 (2); Aug. 7 (1); Apr. 18 and 20 (2); May 7 (19), the last May 9 (6). Killder: None in late May and June. This may be due to almost all land being covered with corn. July 22 (8); July 27 (53); Aug. 7 (21), then a few until a peak Sept. 4 (74). They continued above 50 thru Sept., Oct. and Nov. (1-11). None in Dec. and Jan. Feb. 9 (1), built up Jan. 23 (34); Mar., Apr. and May (1-6). American Golden Plover: Oct. 6, 8,

and 9 (5). These were entirely in fall plumage and are our only fall record for Nashville. Black-bellied Plover: A beautiful bird in full breeding plumage on Sept. 2 and 4. Common Snipe: Feb. 26 (1). There was not enough cover for them on the exposed muddy lake bottom. Upland Plover: July 24 (2).

Spotted Sandpiper: May 26, 1959 (2), were the last for that spring. The first fall July 23 (1), then 3 to 5 until Nov. 12 (1). This is a new late fall record here. Nov. 14, 1959 given in Sept. 1959 MIGRANT was the writer's error and should have been Nov. 7, 1959. Apr. 18 (3), were the first of spring and the peak was Apr. 19 and May 11 (8). Lesser Yellowlegs: Oct. 5 (1); Oct. 21 to 30 (1), then Apr. 5 (1) and a one-legged bird on Apr. 20. Pectrol Sandpiper: July 24 (6); Sept. 16 (1); Sept. 18 (2); Sept. 24 (1); Oct. 5 (2) and Nov. 5 (1). Only spring records Mar 16 and 17 (3). White-rumped Sandpiper: Sept. 16 and 24 (1). Least Sandpiper: July 24 (20); Sept. 9 (2); Oct. 29 and 30 (1) and Nov. 20 (1). Dunlin: Oct. 23 (1), a build up to Nov. 16 (6) and down Nov. 20 (2). These are rare here. Short-billed Dowitcher: Oct. 12 and 13 (1). Also rare. Stilt Sandpiper: July 24 (1). Rare here. Semipalmated Sandpiper: July 24 (10); Oct. 12 and 13 (1), then May 7 (2). Buff-breasted Sandpiper: Sept. 16 (2). These birds fed to within 20 feet of the car. This is our first Nashville record. Sanderling: Sept. 16 and 18 (1); Oct. 5 and 6 (1). There was enough difference in plumage for the writer to feel sure that these were different individuals. These were our first Nashville records. Avocet: Sept. 24 (1). This bird fed in water from one inch deep up to the point where it seemed to float. It would allow fairly close approach and when it did flush it would circle the lake and alight again in the same spot. Rare here.

Herring Gull: The first in summer plumage on Oct. 8 (1). This is a new early date here. Next was Oct. 21 (1), then Nov. 24 (2). The peak was Dec. 5 (12), with 5 to 6 during the month. Then Jan. 28 (1); Mar. 3 (2). One to two were seen several times in Apr. and the last May 6 (2). Ring-billed Gull: Oct. 26 (3); Nov. 5 (26). These built up Nov. 20 (300) and continued to Dec. 5 (400); then, Dec. 10 (293) and down Dec. 17 (1). Jan. 5 (12); Feb. 10 (1); Mar. 16 (3), to a spring peak Mar. 24 (24). A few in Apr. and the last May 7 (1). Franklin's Gull: May 5 (1). This is our second record for this species at Nashville. For 24 hours the wind has been blowing out of the southwest at 30 to 40 miles an hour. Late in the afternoon of the next day Mrs. Sue Bell saw 2 there. Common Tern: July 28, 29 and Aug. 1 (1), then May 7 (7). Black Tern: Jun. 2 (1); May 6 (3); May 7 (2); May 11 (1) and 12 (1). Mourning Dove: Some all year. July 22 (60); Sept. 14 (18) and Nov. 20 (2), then a spring peak Apr. 27 (60). Common Nighthawk: July 6 (1). Chimney Swift: They arrived very late at the lake and occasionally a few were seen on dull days. Ruby-throated Hummingbird: Aug. 31 (1). Belted Kingfisher: 1 or 2 occasionally. They left the lake area when it was drained. Yellow-shafted Flicker: 1 to 2 seen 4 times during the year. Red-bellied Woodpecker: Seen a few times in the trees along the river. Downey Woodpecker: Along the river in winter. Eastern Kingbird: Jun. 26 and July 27 (1). The next Apr. 29 (2); May 11 (1) and May 13 (2). May have nested there. Eastern Phoebe: July 27 (1). Eastern Wood Pewee: May 13 (1).

Horned Lark: Oct. 23 (8) to Nov. 17 (100). This went down Jan. 27 (35) and continued down to a pair in the nesting season. For the spring of 1959 they were last seen in early June.

Tree Swallow: The only fall record was Oct. 14 (18). This is a new late date here. They were very late in spring. May 6 (5), and a peak May 9 and 10 (100). May 11 (20), the last. Bank Swallow: Oct. 14 (2). This is another late record and the only one for fall. They were late in spring, May 7 (35); May 10 (500) and down May 13 (50). This is a remarkable number of Bank Swallows for the Nashville area. Rough-winged Swallow: Mar. 29 (2), and a peak May 9 (20). About 2 pairs nested along the river. Barn Swallow: About 20 nested successfully in the big barn in summer. The first of spring were Apr. 1 (3). Very few were seen until May 11 (over 300). Cliff Swallow: The first May 7 (25) to a peak on May 9 (100) and the last on May 10 (50). They nest 20 miles west of Nashville, but are not seen here often. Purple Martin: 6 or 7 pairs nested in the big box put up in Mar. 1959. No males were in mature plumage. Only July 13, 6 dead and 1 live young were found under the box. These seemed to be within 1 or 2 days of being mature enough to fly. None was seen after this date. Corn was sprayed with DDT about twice a week and this may account for the deaths.

Blue Jay: Sept. 30 (1). Common Crow: Only 1 or 2 pairs until spring. During Mar. they were there in numbers up to a peak on Mar. 23 (87). Carolina Chickadee: Jan. 27 (1). Tufted Titmouse: Seen twice during the winter. Carolina Wren: Nov. 3 (1).

Mockingbird: Occasionally. It is doubted that they nested there in 1959. Brown Thrasher: 1 several times in early Apr.

Robin: A few in early spring. Water Pipit: Nov. 12 (12), then a peak Feb. 26 (35), a few in Mar. and May 7 (1). When the ground was covered with snow and the lake was low they fed on a 12 inch strip of bare earth between the water and the snow.

Loggerhead Shrike: Sept. 8 (1).

Starling: A few pairs nest on the farm. There were around 50 in the fall and a flock Dec. 12 to 14 (5000), then usually around 300 until nesting time.

Yellow Warbler: July 29 (1); Aug. 22 (3). Myrtle Warbler: The first was very early, Sept. 30 (1), then usually 2 or 3 along the river with a peak Jan. 27 (16) and the last Feb. 24 (12).

House Sparrow: Around 20 on the farm. However, they were entirely absent for the 3 coldest months, though seen close by.

Bobolink: May 7 (7) to May 11 (6). Eastern Meadowlark: July and Aug. (20); Sept. (35); Nov. (50), then a few to none until a few pair in their nesting season. Eastern Brown-headed Cowbird: Mar. 22 (20), then a few in early summer.

Cardinal: In Jan. (1), a pair in Apr. Indigo Bunting: May 9 (1). Dickcissel: A male May 9. American Goldfinch: July 13 (2); Feb. 2 (12), and Feb. 13 (4). Savannah Sparrow: Sept. 30 (2), then 1 to 2 until Nov. 2; Feb. 26 (1) until Mar. 29 (1-10). In Apr. a field of mustard contained a great many sparrows, but they would not appear long enough for identification. Vesper Sparrow: Oct. 27 (1); Nov. 17 (1), and Mar. 29 (10). Lark Sparrow: A female on May 12.

Slate-colored Junco: Nov. 3 (10), then a few in Dec. Field Sparrow: Nov. 3 (25). Rarely seen on the farm. White-crowned Sparrow: Beautiful mature birds in the trees along the river on May 7 (11). White-throated Sparrow: Just a few times in winter along the river. Swamp Sparrow: Mar. 28 (1), and Mar. 29 (2). Song Sparrow: Oct. 6 (1), then 1 to 3 until Mar. 29 (1).

3800 Richland Avenue, Nashville 5, Tenn.

THE 1960 CHRISTMAS SEASON BIRD COUNT

By T.O.S. MEMBERS

The thirtieth annual Christmas Bird Count to be tabulated in THE MIGRANT, listing 122 species and subspecies, equals the highest counts attained in 1954 and 1955. Fifteen areas were reported, twelve of which are tabulated while three high altitude counts are reported in the paragraphs under the appropriate heading, (Cosby, Big Bald Mountain and Roan Mountain). The high altitude reports include two species (Pine Siskin and Snow Bunting) not listed in the table. The only subspecies new to the list is Hutchin's Goose from the Reelfoot Lake area.

Twenty species occur in all of the tabulated lists and 11 others are absent from only one list. Eighteen species occur in only one list while seven species are represented by a single individual.

Information on the counts and the localities in the table are listed progressively from west to east. Species designated by an asterisk (*) in the table are elaborated upon more fully in the appropriate paragraph.

INFORMATION ON THE COUNTS

MEMPHIS. — 1953 areas generally; wooded bottomlands 30%, deciduous woods, city parks & cemeteries 25%, pastures, farms, airfield 20%, suburban roadsides 22%, river edge 3%. Dec. 26, 7 a.m. to 5 p.m. Overcast to 11 a.m. then part fair, temp. 55-60, wind 3-10 W, muddy, standing water. 29 observers in 7 parties. Total party-hours, 86 (66 on foot, 20 by car); total party-miles, 193 (58 on foot, 135 by car). Missed Bluebird and both vultures second straight year. The (Western) Palm Warbler (BC, 12 feet) was the first winter record for the Memphis area. The Snow Goose, Vesper Sparrow (BC) and Lincoln's Sparrow (LC, 15 feet) were first Count records here in about 15 years. The blackbird roost was at a new locality, — Galloway Park (golf) and nearby homes. John T. Bigham, Mrs. Ed Carpenter, Mr. and Mrs. Ben B. Coffey, Jr., Mary Davant, Mrs. Henry Dinkelspiel, John H. Embury, Earl Fuller, Oliver F. Irwin, Mrs. Burt Johnson, Luther F. Keeton, Edward M. King, Charles McPherson, Mrs. J. H. McWhorter, Nelle Moore, Jack Moore, John Morrow, S. Jack Rini, Jim Rini, Mrs. Henry A. Schiller, Jack Shaffer, Bob Shaffer, Alice Smith, Mrs. Arlo I. Smith, Lynn Smith, Pamela Smith, Mrs. M. L. Torti, Mr. and Mrs. Chas. E. Wilmeth.

REELFOOT LAKE. — All points within 15-mile diameter circle with center in Reelfoot Lake; lake 20%, marsh 5%, deciduous woods 45%, fields and farm land 18% and roadside 12%; Dec. 27; 7:30 a.m. to 4:30 p.m. Overcast; temp. 35° to 47°; wind NE, 2-5 m.p.h.; eight observers in 3 parties. Total party hours, 25.5 (8 on foot, 9.5 by car and 8 by boat); total party miles, 194.2 (10 on foot, 175.2 by car and 9 by boat). The observation of the Hutchin's Geese was by Preston Lane, supervisor of the Reelfoot Wildlife Refuge, who has observed them on several occasions, including the count day, at close range and with binoculars as they fed along side of Canada Geese in the corn fields on the refuge. (Seen in area count period, but not on count day — Common Snipe and Greater Scaup). The Greater Scaup was collected by Walter O. Stieglitz while hunting waterfowl on Reelfoot Lake during the count period. Stieglitz, who is waterfowl biologist, assigned to the Fish and Wildlife Service Waterfowl Refuge on Reelfoot Lake and Preston Lane, the refuge manager, both identified the duck as a Greater Scaup. John R. Conder (compiler), Dr. and Mrs. Hunter M. Hancock, Preston Lane, Clell T. Peterson, William T. Sledd, Walter O. Stieglitz and James Wilke.

NASHVILLE. — (Approx. same areas as in past 10 years; a 15 mile diameter circle centering on Harding, 7 mi. W. of Nashville.) Dec. 31; 6:30 a.m. to 4 p.m. Continuous light rain after 1 p.m., all but halting activities. Visibility fair in a.m. Temp. range 23-35 degrees above. Little wind. Ground bare and wet. Dec. was cold with some snow. 39 observers in 13 parties. Total party-hours 78 (on foot 35; in car 43). Total party-miles 174 (on foot 32; in car 142). (Above figures are up to 1 p.m., some cars continued to cruise). Total species 81; about 1,306,176 individuals, 1,300,000 of which were estimated in a roost. This roost was on Golf Club Lane, (est. by A. F. G.), see note in Round Table. The Gulls were on and about Bush' lake. The ducks were on Bush's and Radnor lakes except the Wood Ducks, listed from canoe on Harpeth river. (L. F. III et al.) Other rareties were Lapland Longspur, Least Sandpiper and Greater Scaup (J. O. et al), Am. Roughleg Hawk (L. F. Jr.) and Brewer's Blackbird (H. E. P. et al). — Mr. and Mrs. B. H. Abernathy, O. C. Ault, Mr. and Mrs. Wm. F. Bell, Earl Bishop, Rev. and Mrs. Douglas Berndt, Annella Creach, Ruth Castles, D. J. and Fairman Cumming, Milbrey Dugger, Mr. and Mrs. John O. Ellis, Louis Farrell Jr., Louis Farrell III, Garth Fort, Mary W. Frazer, Albert F. Ganier (compiler), Charles Farrell, Catherine Goodpasture, Wayland Hayes, Will T. Hon, J. P. Jones, Alan Munro, John Ogden, Henry E. Parmer, Jennie Riggs, Edw. and Dan Shreiber, Paul Stumpf, W. D. Trabue, Mary Dale Trabue, L. O. Trabue, Anne and Lucy Trabue, Ruth White and Jesse Wills.

LEBANON. — Under heavily clouded skies with a starting temperature of 37 degrees, our bird census on Jan. 2 turned up 72 species. All members of the chapter took part in the count and Henry Parmer and Will Hon of the Nashville Chapter joined us. The territory covered was the same that we have covered for the past several years.

Relative dearth of Bluebirds and Carolina Wrens was disappointing. In the nature of surprises were finding of Blue-winged Teal and the fact that White-crowned Sparrows outnumbered White-throats. Most of the White-crowns were in concentration at Horn Springs, apparently attracted by the feeder at the home of Dr. R. D. Wilkinson.

Most of the waterfowl reported were observed in the Lock Five refuge within the Old Hickory Lake Waterfowl Development area. The number of waterfowl in the area is said by officials to be about fifty per cent larger this year than last. The birds that we saw were, as to number of species, only a fraction of the number known to be on the area. While we report only 700 Black Duck, for instance, the superintendent says that he has seen not less than 2,750 on the refuge. Dixon Merritt.

COOKEVILLE. — Approximately the same area as last year. Dec. 29; 7:30 a.m. to 4:00 p.m. Rain all day long; temp. 40° to 46°; wind 0 to 5 m.p.h. Fifteen observers in 8 parties. Total party hours 64 (3 on foot, 61 by car); total party miles 186.5 (3.5 on foot, 183 by car). Birds seen in the area but not on count day — Bald Eagle, Herring Gull, Rock Dove, Brown Creeper and Golden-crown Kinglet. Stella Breeding, Claude Bruce, Joe Crumpacker, Caprice Haile, Roy Hines, Ethel Hogan, P. L. Hollister (compiler), Claren Loftis, S. and M. McGee, Dr. J. T. Moore, Milos Sebor, Louise and Sue Snelgrove and Thelma Tinnon.

CHATTANOOGA. — (7½ mile radius centered on National Cemetery in city); fields and pastures 35%, woodlands 20%, ponds and lake 15%, creeks and river 15%, roadside 10%, residential 5%). Dec. 26; 5:00 a.m. to 5:00 p.m. Partly cloudy to cloudy; temp. 36° to 60°; wind SW, 0-19 m.p.h.; 21 observers in 10 parties. Total party-hours, 85 (49 on foot, 36 by car); total party-miles, 383 (71 on foot, 312 by car). Total, 74 species; 115,486 individuals. Leo Acuff, Mrs. J. R. Barnwell, Mr. & Mrs. T. Stanley Barr, Benton Basham, Ralph Bullard, Jr., Rock L. Comstock, Jr. (compiler), Mrs. Rock L. Comstock, Jr., Mrs. Leon Cross, Mr. & Mrs. Hugh Crownover, Kenneth Dubke, John Freeman, E. O. Grundset, Mr. & Mrs. Nat Halverson, Mrs. Henry L. Sliger, Mrs. Douglas L. Tunsberg, Mr. & Mrs. Eugene M. West, Sara Whitworth.

KNOXVILLE. — The description of the count area, including percent of cover types, is the same as last year, 1959.

Time and weather: January 2, 7 a.m. to 5 p.m. Partly cloudy to clear, temp. 32 to 45 degrees; wind of about 10 m.p.h.; 17 observers in 10 parties; total party hours, 59.

Mr. and Mrs. Robert Dunbar, John Elson, Mary Enloe, Bill Gallagher, David Highbaugh, Joseph C. Howell, Beth Lacy, Mr. and Mrs. R. A. Monroe, Holly Overton, J. B. Owen, Paul Pardue, Dick Russell, Mrs. Kenneth Sanders, James T. Tanner, Samuel R. Tipton.

GREAT SMOKY MOUNTAINS NATIONAL PARK, Tennessee-North Carolina. (All points within a 15-mile diameter circle, center near Crib Gap, approximately 3 miles east of Cades Cove, with Abrams Falls at western limit and Blanket Mountain at eastern limit; open farm land, 15%; old fields, 20%; forests, 35%; roadsides, 20%; stream courses and 60-acre reservoir, 10%.) January 1: 7:30 a.m. to 5:30 p.m. Partly cloudy; temperature 35 degrees to 47 degrees; wind variable, light; ground bare in lowlands, snow-covered at higher altitudes. 33 observers in 11 parties. Total party-hours, 89 (71 on foot, 18 by car); total party-miles, 210 (76 on foot, 134 by car).

Jessie Dempster, Mr. and Mrs. Robert J. Dunbar, John Elson, Mary Enloe, W. F. Gallagher, Mr. and Mrs. H. C. Garlinghouse, Quincy A. Gorman, David B. Highbaugh, James Hill, Dr. Joseph C. Howell, Wayne M. Lamb, Charles W. Loveday, Richard Martin, William T. Martin, Mr. and Mrs. Robert A. Monroe, Mrs. E. E. Overton, Paul S. Pardue, Richard W. Russell, Mr. and Mrs. Louis F. Smith, Jr., Mr. and Mrs. Arthur Stupka, Mrs. Thomas C. Swindell, David Tanner, Dr. James T. Tanner, Dr. and Mrs. Samuel R. Tipton, James A. Wardley, Mr. and Mrs. George R. Wood (Tennessee Ornithological Society, National Park Service, and guests).

COSBY. — Recreation area, not to top of mountain because the streams were too high to cross. Jan. 1; 8:30 a.m. to 3:00 p.m. Cloudy to clear; temp. 34 to 38°; wind, very light; about 3 mi. on foot. Sharp-shinned Hawk, 1; Red-tailed Hawk, 2; Pileated Woodpecker, 4; Hairy Woodpecker, 1; Downy Woodpecker, 5; Phoebe, 1; Com. Crow, 4; Car. Chickadee, 4; Tufted Titmouse, 6; Brown Creeper, 2; Hermit Thrush, 1; Golden-crown Kinglet, 2; Ruby-crowned Kinglet, 1; Purple-Finch, 2; Slate-colored Junco, 10. Total 15 species, 46 individuals. Mrs. Chester Darnell, Mr. and Mrs. Richard Nevius.

BIG BALD MOUNTAIN. — (Unicoi County, Tenn. and Madison County, N. Car.) Jan. 2; altitude 3500' to 5500'. Red-tailed Hawk, 1; Blue Jay, 3; Tufted Titmouse, 4; White-breasted Nuthatch, 7; Brown Creeper, 1;

THE 1960 CHRISTMAS SEASON BIRD COUNT

	Memp.	Reel L.	Nash.	Leb.	Cooke.	Chat.	Knox.	Grt. Sm. Green.	King.	Bris.	Eliz.
Common Loon	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Red.th. Loon	.....	.....	.....	.....	.....	.....	.....	.....	.....	*1	.....	.....
Horned Grebe	.....	.....	.....	1	.....	22	2	2	.....	.....	.....	.....
Pied.bld. Grebe	1	.....	.....	.....	.....	3	1	8	.....	5	.....	9
Grt. Bl. Heron	2	16	2	2	.....	4	20	1	2	2	5	1
B.-c Night Heron	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Am. Bittern	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
Canada Goose	.....	5,650	.....	31	.....	.....	.....	.....	15	.....	1	.....
Hutchin's Goose	.....	*18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Snow Goose	*2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blue Goose	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mallard	78	84,350	46	4,000	.....	34	.....	.....	61	5	5	2
Black Duck	30	7,000	7	700	.....	18	5	2	2	2	.....	.....
Gadwall	.....	7,000	9	10	.....	.....	.....	.....	.....	.....	.....	.....
Pintail	.....	17,000	.....	300	.....	.....	.....	.....	.....	.....	.....	.....
Green-w. Teal	.....	400	.....	10	.....	.....	.....	.....	1	1	.....	.....
Blue-w. Teal	.....	.....	.....	*8	.....	.....	.....	.....	.....	.....	.....	.....
Am. Widgeon	.....	15,300	2	300	.....	.....	.....	.....	.....	.....	.....	.....
Shoveler	.....	2,350	.....	4	.....	.....	.....	.....	.....	.....	.....	.....
Wood Duck	1	20	5	3	.....	.....	.....	.....	.....	.....	.....	.....
Redhead	.....	10	1	3	.....	.....	.....	.....	1	2	.....	.....
Ring-neck. Duck	22	6,000	57	60	.....	.....	.....	45	.....	2	.....	17
Canvasback	32	3,000	29	40	.....	.....	.....	.....	.....	.....	.....	8
Grtr. Scaup	.....	..... *	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lsr. Scaup	44	300	20	10	.....	.....	21	.....	.....	2	.....	4
Com. Goldeneye	.....	200	2	.....	.....	11	5	.....	.....	9	.....	1
Bufflehead	.....	150	.....	.....	.....	.....	.....	1	10	.....	.....	26

Old Squaw	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ruddy Duck	1	200	.....	.....	.....	.....	.....	7	.....	.....	.....	.....
Hd. Merganser	.....	150	.....	30	.....	1	15	.....	3	.....	.....	3
Turkey Vulture	.....	9	.....	.....	1	128	6	3	32	7	5	.....
Black Vulture	.....	13	2	7	.....	24	.....	.....	29	3	.....	1
Sharp-shd. Hawk	.....	.....	.....	.....	.....	.....	1	3	.....	.....	1	.....
Cooper's Hawk	1	2	1	1	1	.....	5	.....	2	.....	.....	2
Red-tld. Hawk	31	25	12	4	.....	8	3	6	4	.....	.....	.....
Red-shld. Hawk	2	4	6	1	.....	1	1	3	.....	.....	2	.....
Am. Rf-lgd. Hawk	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	.....
Bald Eagle	.....	25	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Marsh Hawk	6	9	5	2	3	2	3	.....	1	.....	.....	.....
Sparrow Hawk	14	18	40	8	4	15	16	4	7	3	8	6
Ruffed Grouse	.....	.....	.....	.....	.....	.....	.....	18	.....	.....	.....	1
Bobwhite	14	8	27	20	8	93	10	8	.....	2	.....	23
Am. Coot	.....	8,700	1	6	.....	.....	.....	90	.....	.....	.....	.....
Killdeer	33	3	41	6	4	54	83	.....	6	5	4	6
Com. Snipe	2	.....	1	.....	.....	4	83	.....	2	.....	.....	.....
Least Sandpiper	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Herring Gull	.....	40	25	.....	.....	4	4	.....	.....	24	5	.....
Ring-bld. Gull	35	89	409	.....	.....	25	200	.....	.....	45	.....	1
Bonaparte's Gull	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....
Rock Dove	.....	.....	.....	70	.....	338	197	2	53	.....	28	17
Mourning Dove	88	15	247	400	86	446	232	150	500	30	65	14
Barn Owl	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Screech Owl	.....	.....	4	.....	.....	2	1	3	1	.....	2	.....
Grt. Horned Owl	.....	.....	2	1	.....	1	.....	.....	1	.....	.....	.....
Barred Owl	4	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bltd. Kingfisher	1	7	15	1	.....	14	11	5	6	5	2	5
Yel.-sh. Flicker	125	8	92	17	20	70	36	4	12	6	8	9
Pil. Woodpecker	6	10	25	3	5	19	15	26	10	4	1	4
Red-bel. Woodpecker	72	20	55	10	9	39	20	.....	10	4	1	.....

Red-hd. Woodpecker	57	.....	.....	.....	2	10	3	.....	2	1	.....	.....
Yel.-bel. Sapsucker	42	1	24	6	5	11	8	7	3	5	2	.....
Hairy Woodpecker	9	4	10	3	5	13	3	7	1	.....	1	3
Downy Woodpecker	43	6	72	13	9	47	38	32	25	10	13	15
E. Phoebe	.....	.....	7	4	1	1	2	7	1	.....	1	.....
Horned Lark	33	3	181	115	13	72	46	.....	75	.....	.....	1
Blue Jay	368	22	132	44	120	371	215	14	97	89	40	30
Raven	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....
Com. Crow	51	25,000	831	118	219	632	901	304	10,000	2,000	160	141
Fish Crow	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bl.-cpd. Chickadee	.....	.....	.....	.....	.....	.....	.....	148	.....	.....	.....	.....
Car. Chickadee	129	45	118	46	20	141	173		55	56	70	27
Tufted Titmouse	57	15	107	35	34	210	124	74	29	59	64	19
Wh.-br. Nuthatch	.....	3	1	1	5	35	4	2	1	3	3	.....
Red-br. Nuthatch	.....	.....	.....	.....	.....	2	.....	2	2	.....	2	.....
Brown Creeper	5	3	5	1	.....	6	12	11	5	7	3	5
Winter Wren	16	.....	12	.....	1	5	11	16	11	4	.....	.....
Bewick's Wren	.....	.....	6	10	5	3	6	.....	5	.....	.....	.....
Car. Wren	87	3	46	6	10	82	91	25	41	14	29	24
Sht.-bld. Marsh Wren	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mockingbird	148	4	83	31	27	129	111	7	47	24	38	27
Catbird	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Brown Thrasher	28	.....	3	1	2	21	4	.....	1	.....	.....	.....
Robin	1,190	29	800,000	900	26	41	1	2	2	22	.....	7
Hermit Thrush	7	.....	16	.....	.....	1	.....	11	.....	.....	.....	.....
Bluebird	.....	6	70	13	20	80	13	27	13	5	.....	6
Go-cr. Kinglet	25	15	16	1	.....	40	31	117	7	20	12	12
Ruby-cr. Kinglet	32	4	5	1	.....	6	1	9	2	.....	.....	.....
Water Pipit	59	.....	9	.....	.....	25	30	.....	.....	.....	.....	.....
Cedar Waxwing	736	.....	119	.....	130	364	23	14	47	21	.....	.....
Log-hd. Shrike	18	13	9	8	4	28	20	2	6	1	3	2
Starling	500,000	810,000	500,000	4,000	1,505	81,308	6,738	149	4,000	1,000	2,607	1,115

Myrtle Warbler	51	1	146	6	2	8	70	23	12	13	.....	21
Pine Warbler	.....	.....	.....	.....	.....	3	.....	.....	3	.....	.....	.....
Palm Warbler	*1	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....
House Sparrow	432	200	155	97	40	641	200	35	57	47	222	147
E. Meadowlark	383	31	335	33	150	308	355	194	153	79	44	76
W. Meadowlark	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Redw. Blackbird	350,000	1,620,000	162	.....	2	10,388	10	3	.....	.....	.....	1
Rusty Blackbird	30	.....	.....	.....	.....	1,537	35	.....	.....	.....	.....	.....
Brewer's Blackbird	8	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Com. Grackle	900,000	81,000	235	5	515	15,578	10	.....	972	14	.....	11
Br.-hd. Cowbird	250,000	189,000	5	.....	8	30	40	.....	15	.....	.....	.....
Cardinal	616	114	593	131	140	294	313	73	131	70	85	84
Purple Finch	20	.....	5	10	60	32	17	5	2	9	.....	3
Am. Goldfinch	82	.....	211	13	48	367	132	22	71	15	10	73
Ruf.-sd Towhee	109	15	147	24	59	154	109	11	20	30	12	11
Savannah Sparrow	38	.....	30	.....	37	4	3	4	.....	.....	.....	1
Vesper Sparrow	*2	.....	.....	.....	.....	.....	.....	.....	.....	.....	*2	.....
Sl.-col. Junco	541	60	349	250	176	246	196	459	70	100	48	146
Tree Sparrow	.....	2	.....	2	2	.....	.....	.....	.....	.....	.....	.....
Chipping Sparrow	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Field Sparrow	162	.....	143	90	45	174	171	211	95	78	44	56
Harris' Sparrow	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wh.-cr. Sparrow	38	.....	77	63	4	.....	16	1	50	4	14	10
Wh.-th. Sparrow	1,745	22	236	38	55	428	362	186	85	84	80	71
Fox Sparrow	70	.....	18	1	3	13	9	20	.....	.....	1	3
Lincoln's Sparrow	*1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Swamp Sparrow	221	4	62	.....	.....	18	9	111	.....	.....	.....	5
Song Sparrow	251	13	180	23	20	197	141	154	53	17	34	54
Lapland Longspur	13	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPECIES	**75**	**70**	**81**	**72**	**49**	**74**	**71**	**63**	**65**	**54**	**45**	**53**
Individuals	2,008,847	2,884,259	1,306,185	12,217	3,670	115,486	11,804	2,893	17,145	4,071	3,788	2,367

Cardinal, 2; Pine Siskin, 2; Towhee, 1; Slate-colored Junco, 2; White-throated Sparrow, 3 and Snow Bunting, 1. Total species, 11; individuals 27. Fred W. Behrend.

GREENEVILLE. — About the same area covered as in several previous years. Dec. 30, 1960. The day was partly cloudy to clear, temp. 34 to 41 degrees. Twelve members with other interested persons in 8 parties drove 137 mi. and walked 15 mi., with a total of about 32 party hours to observe 66 species, and about 17,149 individuals. Members participating — Mr. and Mrs. W. Clemens, Dr. and Mrs. T. Clinard, Mr. and Mrs. W. Gray, Mrs. Wilma Irvine, Mr. and Mrs. R. Nevius, Mrs. Royal Spees, Lynn and Karl, Mrs. Helen White and Mrs. C. Darnell (compiler).

KINGSPORT. — All points within 15-mile diameter circle centering on Hillcrest, including southeastern slope of Bays Mt and Boone Lake. Open fields 30%, woodland 40%, lake and stream borders 30%. Jan. 2; 8:30 a.m. to 4:30 p.m. Clear except heavy fog over water before 10:00 a.m. Temp. 25° to 45°; wind 0-10 m.p.h. Running water open, still water frozen except the lakes. Seven observers in 5 parties. Total party hours, 38. Seen in the area during count period but not on count day, Horned Grebe, Oldsquaw (first area record), Hooded Merganser and Am. Coot. The Red-throated Loon was first seen on Dec. 30 on Boone Lake about 200' above the dam. It was first observed from the parking area and later from the shore at about 300' distance through 30X telescope and studied for 15 or 20 min. by Mrs. Switzer and son Robert. The bird was seen in the same area on the count day by Mrs. Switzer, (compiler). Dan, Tommy and Thomas W. Finucane, George Rogers, Mrs. J. Winston Smith and Mrs. R. M. Switzer.

BRISTOL. — The usual area in the vicinity of Bristol, including open fields, woodlands and portions of South Holston and Boone Lakes. Dec. 31; 6:45 a.m. to 5:00 p.m. Clear to partly cloudy; temp. 32° to 50°; wind 0-10 m.p.h. Nineteen observers. The Vesper Sparrows were observed by Mr. and Mrs. Herbert Miller at from 20' to 50' through binoculars. They were under observation for several minutes and the white outer tail feathers and reddish shoulder patches were identification marks. They were in hedgerows, small shrubs, tall grass and weeds in an area where they had been observed over a period of years.

ELIZABETHTON. — The center of our circle was shifted from Valley Forge to Wilbur Dam, 4.5 miles to the NE. This permitted the taking in of more of Watauga Lake while retaining the greater portion of the territory usually covered. Dec. 31; 6:00 a.m. to 5:30 p.m. Clear, cold and frosty with increasing cloudiness to completely overcast and rain after 3:00 p.m. Temp. 24° to 50°; wind 0 to 15 m.p.h. Seven observers in 6 parties. Total party hours, 44 (30 on foot and 14 by car), total party miles, 145 (28 on foot, 117 by car). J. C. Browning, Ed Davidson, Kenneth Dubke, Mr. (compiler) and Mrs. Lee R. Herndon, Roby D. May, Jr and Frank Ward.

ROAN MOUNTAIN. — At elevations between 3750' and 5800'; deciduous and coniferous forests and grassy balds. Snow ranging from 3" to 15" in the woodlands. All on foot. Ruffed Grouse, 3; Hairy Woodpecker, 1; Downy Woodpecker, 1; Blue Jay, 3; Raven, 1; Com. Crow, 1; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 2; Robin, 1; Purple Finch, 2; Pine Siskin, 2; Am. Goldfinch, 1; Slate-colored Junco, 11; Song Sparrow, 1 and Snow Bunting, 15. The Snow Buntings were seen in a flock flying over Round Bald Mountain at 5800'. Fred W. Berhend.

DICKCISSEL.—On June 5, 1960, a pair of Dickcissels was seen at the exact site where the single spring census bird was found. This pair was observed for at least half an hour under an extremely hot sun. They chipped constantly and moved from one nearby perch to another, usually sitting just inches apart. I also stood for long periods without moving. Finally, I backed away and soon the female flew to a tangle along a fence near me. Since she did not reappear for several minutes, I approached the spot. My husband, Gene, joined me at this point and we searched for the nest. The female flushed but we could not find the nest. A week later we returned but there was no sign or sound of the pair. We again searched for and found the nest in the thickest part of the tangle. It was empty except for one adult tail feather and appeared to be undisturbed. It is possible that our activities caused an abandonment, but I prefer to think that a predator was responsible. We have passed the area several times in a car without finding any evidence that the Dickcissels are anywhere about.

The nest was mailed to Mr. A. F. Ganier who identified it as that of a Dickcissel. This is the first known breeding record (if it may properly be called one) for this southeastern end of Tennessee. It is also rare as a migrant here. There has been, and probably still is, a colony that nest near the town of Chickamauga, Georgia, about 12 miles from downtown Chattanooga.

MRS. E. M. WEST, 5511 Dayton Blvd., Chattanooga 5.

ROBIN-STARLING ROOSTS: — In the Christmas Census of Dec. 31, 1960, are included 800,000 Robins and 500,000 Starlings, listed in a long-used roost on Golf Club Lane in suburban Nashville. This estimate was made by the writer and, as in roosts of this size, may be off by 25 percent. This is the largest number of Robins we have had this early in the winter in many years and was due chiefly to the availability of an extremely heavy hackberry crop. While this roost was in progress, a much larger one had built up 11 miles north at a point 1 mile N-W of Madison. The above species, in about the same proportions, "blackened" the young trees in a dense thicket for an area of about 30 acres. This roost was estimated at between 3 and 5 million birds. Large roosts are in progress at this time in Memphis, Johnsonville, Chattanooga and doubtless many other points. One begins to wonder if the Starling population is not "getting out of hand."

ALBERT F. GANIER, Nashville 12, Tenn.

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VOL. 32 MARCH 1961 NO. 1

SNOWY OWL

An "alert" was set in motion, when on the evening of December 18, 1960 the Director of the Nashville Children's Museum, positively identified a Snowy Owl not one block from the Museum!

A local newspaper released the story. From then on numerous reports trickled in concerning its whereabouts. None of these bore fruit, until on Tuesday, January 10th, the Museum received a call from a Nashville grocer —who claimed to have the bird alive, at his home, neatly packaged in a cardboard box!

Being somewhat skeptical of such obvious absurdity an interrogational call was made to the "boastful" party. "How high did you say it stands?" "Oh, about 20 inches," "And it's all white?" "Sure is, except for some dark spots!"

There was little need to further press the issue. Three members of the Nashville Chapter (T.O.S.) including its current President, and one charter member President Emeritus, quickly "roped off" the area. While our friend was nervously untying the rope which held down the lid, I could not help noticing how small this box was! How in the world, I thought, could this mysterious monarch of the frozen North possibly be contained there-in. At last the rope fell limp to the floor. The lid sprang up just a little. Our friend hesitated for a moment, to caution us about this ferocious creature, that it was thirsty for blood (obviously his). Not being able to stand this suspense one more second, I reached over and with one felled-swoop replaced darkness with light!

The light was strong, black pupils quickly retracted. Brilliant yellow irises grew in size and intensity, then as with an explosion, the nictitating membrane momentarily clouded the startling beauty. With a defiant hiss, and a defensive snapping of its black bill, the displaced bird proclaimed its authenticity.

The bird was not white, but soot gray (from the city living), it was not ferocious, but docile. An examination of its breast bone indicated it had been a long time without proper food. With some further questioning, we found that the bird had been captured on Thursday, January 5th. Five days without proper food. It seems the bird was just "picked up" in an alley. How this was possible must remain somewhat of a mystery.

Our friend, firmly convinced, that a bird of such race occurrence was more than he cared to retain, was given to the Children's Museum.

Without further ado the owl was whisked off to a large cage at the Museum where for almost two days the bird would not eat, refusing: white rat, white mouse, and even a lemming-like-hamster, all alive!

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There came a ray of hope however, during this trying time. A large rectangular pan was placed in the cage and a water-drip set up. From a concealed point I was to witness her (as I shall call it) immediate interest. Within minutes she was leaning over the water and commenced to drink for a duration of two and one-half minutes (about forty dips into the pan) she was parched!

At 3:00 p. m. Thursday, January 12th she killed and consumed her first meal in seven days, a Starling. Seventeen hours later she passed a pellet. The following is a feeding schedule recorded for 13 consecutive days:

No. days	Date	Feeding & Pellets	Food & Pellet remains	Hours Between Feeding & Pellets
1	Jan. 12	1st feeding	1 Starling	
2	Jan. 13	1st pellet	Starling remains	17 hrs. passed between 1st feeding and 1st pellet
3	Jan. 14	2nd feeding	1 Starling	46 hrs. between 1st & 2nd feeding
3	Jan. 14	3rd feeding	1 pigeon squab	4 hrs. between 2nd & 3rd feeding
4	Jan. 15	2nd pellet passed	Starling and squab remains	23½ hrs. between 1st & 2nd pellet
5	Jan. 16	4th feeding	adult pigeon	39 hrs. between 3rd & 4th feeding
6	Jan. 17	3rd pellet passed	adult pigeon remains	14 hrs. between 2nd & 3rd pellet
7	Jan. 18		Bird Content	
8	Jan. 19	5th feeding	adult pigeon	62 hrs. between 4th & 5th feeding
9	Jan. 20	4th pellet passed	adult pigeon remains	72 hrs. between 3rd & 4th pellet
10	Jan. 21		Bird Content	
11	Jan. 22	6th feeding	1 Starling	74 hrs. between 5th & 6th feeding
12	Jan. 23	7th feeding	1 adult pigeon	24 hrs. between 6th & 7th feeding
13	Jan. 24	5th & 6th pellet passed	1 Starling and 1 adult pigeon remains	103 hrs. between 4th, 5th, 6th pellets

The bird was kept alive and "well" at the Museum for 48 days! Arrangements were being made to ship the bird, via air to Goose Bay, Labrador when on the 45th day the bird suddenly showed no interest in eating, the 46th and 47th days showed a marked weakness in the bird.

On the 47th day two mice were consumed, and on the morning of the 48th day the owl died.

The bird was immediately turned over to the Vanderbilt University laboratories for autopsy.

There proved to be a wide spread fungus growth. (Generic Name Aspergillus) throughout the internal organs, notably the lungs. The owl apparently had been suffering from this disease (Aspergillosis) prior to her capture, perhaps this explains how she was caught! She fought gallantly to overcome her malady, for there were areas where the infection had become somewhat arrested. However, in the final analysis the disease proved stronger.

Mr. Albert F. Ganier and Snowy Owl.

Aspergillosis is by no means uncommon—pigeons it seems are prone to the infection, there are other cases of infection among captive penguins, poultry, caged birds, and one or more recorded cases among Snowy owls.

I am not overlooking the possibility that the bird might have contracted the infection from an infected pigeon, perhaps one it had killed and eaten while living free, in and about Nashville, or one given to her at the Museum. The latter seems less likely as the disease showed every indication of being long established.

ALAN R. MUNRO, Children's Museum, 724 Second Ave., So., Nashville 10.

THE SEASON

MEMPHIS.—Late fall transients included 5 Black Terns, Sept. 24, 1960, at Booker, Ark., a Golden Plover there Dec. 3 (small previous flock last seen Oct. 1), and 6 Dowitchers (species?) there Dec. 3 & 4. An Avocet at Booker, Oct. 1, was the first ever recorded by a Memphis observer, short of the coast. An adult Bald Eagle was seen Nov. 19 at Saddle, Ark. (Helen & Henry Dinkelspiel) and Mar. 4, south of Norfolk, Ark. (Dr. W. L. Whittemore). An adult Pigeon Hawk was seen Oct. 23 near Melbourne, Ark. and a Harlan's Hawk (dark phase) Feb. 4 near Hazen, Ark. (U S 70 at Hwy 11). Only Short-eared Owls, 2, Booker, Dec. 17. A Common Crow Roost was apparently across the river in Missouri, near Reelfoot Lake, Dec. 18; 7,430 estimated on this side as we drove from Kentucky Bend to Tiptonville (BCs, Alice Smith). Robin roosts were 2,000 on Oct. 31, Hickory Flat, Miss. (left there) and Feb. 19, about 4,000 moving north from Frayser (Memphis),

no stop to look for other lines. House Wren, one, Jan. 6, Germantown, Mrs. Ed Carpenter and Mrs. Chas. Seahorn, Redheaded Woodpecker common, wintering locally, Memphis spots, and one area, Saddle, Ark. (HD & HD). Flocks of 30 to 41 Water Pipits at the Penal Farm, Jan. 28 and Feb. 11; highest, 115, Mar. 5, West Memphis, Ark. A male Common Yellowthroat was seen (Victor Julia, Chas. Wilmeth) Nov. 20, Booker, Ark. Western Meadowlark more common than usual in Crittenden County, Ark. Booker and north, Clarkedale, Marion, Horseshoe Lake (and enroute), and (usual) at Crawfordsville. Three singing, Feb. 19 (BCs, AS), old air base, Halls, Tenn. Four Tree Sparrows seen Jan. 22, Hardy, Ark. The Harris' Sparrow reappeared on the Memphis and Lonoke Counts. Mrs. Seahorn's first this year were two on Dec. 30. Lapland Lonspurs still low, almost absent at Penal Farm, but 1200 at Booker, Ark. Dec. 17. Smith's Longspur: no Tenn. records, missing at Hot Springs (1st time) Nov. 24 and Hope, Ark. Nov. 25; 7 at Texarkana, Nov. 26; 29 at Jonesboro airport, Jan. 21, and only 2 singles, Feb. 4, at Stuttgart. In Miss., only: 10 on Bruce Campbell Field, Jan. 2 (Mrs. Coffey, BC, AS) and 12 on Grenada airport, Feb. 5. At same sites, the Sprague's Pipit down to 1 or 2 or missing, except 7 at Texarkana airport and 10 on pastures 13 miles east of same. A total of one LeConte's Sparrow at all these fields.

Pinewood species were practically absent (5 trips, 5 areas including Chickasaw S.P. and Ben Carr pines, Pocahontas, Tenn.); 4 Pine Siskins, Nov. 25, between Narrows Dam and Murfreesboro, Ark.

Special search for shorebirds, Feb. 26; arrivals were noted only Mar. 5, Booker: Greater Yellowlegs 6, Lesser Yellowlegs 11, Pectoral Sandpiper 18, Golden Plover, 3. Purple Martin, late, 1 on Mar. 1, (James Lancaster, his box, Memphis); next report was one on Mar. 18 (1st by Speeds). Two Bachman's Sparrows singing, dusk, Mar. 11, Hickory Valley, Tenn. (BC & R. Demett Smith, Jr.)

BEN B. COFFEY, JR., 672 N. Belvedere, Memphis 7.

NASHVILLE.—The fall migrations in Nashville, although not as long awaited as spring migrations, still produce their quota of interesting records. After the initial big wave this fall during the first few days of September, the build up of migrants continued at a steady and unexcitable rate until a peak was reached during the week end of the 24 and 25 of that month when an area wide count by the chapter produced 109 species. On this day, 9-25, was recorded the Orange-crowned Warbler, earliest ever recorded here in the fall (John C. Ogden). Following this peak there was a rapid decrease in the migration as only 38 species were found at 2Js on Oct. 2, after 68 had been recorded in the same area one week before.

Highlights of the fall season, other than those recorded in the Round Table notes, were: Upland Plovers, heard calling at nights while migrating on 9-7 and 9-8 (JCO); Dowitchers on 10-25 (Louis Farrell Jr.); Caspian Terns from 9-11 to 9-17 at Bush Lake (JCO et al); Western Kingbirds, 2 from 9-28 to 9-30 near Donelson, Tennessee (Alan Munro); Traill's Flycatcher, banded on 9-18 at Basin Springs (Katherine A. Goodpasture et al); and Bobolink on 9-8 near Ashland City, Tenn. (JCO, Albert F. Ganier).

Duck migration reached its peak in early November with flocks of several hundred birds at Bush and Radnor Lakes. Contrary to the usual practice, a much larger number of ducks than usual remained on Bush Lake through the first half of the winter. On almost all trips through December and the first half of January between 75 and 100 ducks of about 10 species could be seen including 2 species which don't often winter in Nashville,

the Oldsquaws and Greater Scaups. Common Goldeneyes were also more common this winter while Pied-billed Grebes, a usual winter resident, were absent from mid November till early March.

Highlights of the winter season other than those recorded in the Round Table section were: Blue Goose, one immature at Bush Lake from 11-7 till 12-12 (Henry E. Parmer); an adult Bald Eagle flying up the Cumberland River on 1-8 (HEP, JCO); winter records of a Least Sandpiper at Bush Lake from 11-25 till 1-4 (HEP), and of a Dunlin, which remained at a pond near Old Hickory Lake till 12-28 and probably the same bird seen on the lake on 2-4 (Laurence O. Trabue); Bonaparte's Gulls, a flock of approximately 115 at Old Hickory Dam on 11-27, 5 of which still remained on 1-2 (HEP et al), (first Nashville winter record); a Brewer's Blackbird at Bell's Bend on 2-10 (JCO); one Tree Sparrow on 2-18 near Basin Springs (KAG, Amelia R. Laskey); and the first Nashville record of the Lapland Longspur was one bird at Bush Lake farm on 12-31 (JCO). Several observers commented that Brown Thrashers were more common this winter; 3 were gotten on the Christmas Count and several others were seen for varying periods of time in different parts of town.

The beginnings of the spring migration were noted with the return of the Sharp-shinned Hawk and Horned Larks to their nesting territories at Basin Springs on 2-26 and 3-4 respectively (KAG). The first Woodcocks were on 2-18 when one was heard singing at dusk by Louis Farrell III near his home and one on the following day flushed at 2Js by Earl Bishop. On March 5, a Woodcock was heard singing at 2Js (EB, JCO). The return flight of Canada Geese occurred in the main on 2-12 when 5 different people reported seeing 6 different flocks in widely scattered areas totaling over 560 geese (JCO, KAG, EB, Harry C. Monk and Mary F. Holloway). The peak of the spring duck migration was on 3-1 and 3-2 and one highlight of this period was 46 Redheads on 2-28, an unusually large number for this species around Nashville (HEP).

The first Chipping Sparrow was on 3-4 (Mrs. H. Hodgson).

But the most remarkable series of incidents to happen was the extremely early arrival of 3 species possibly due to the unseasonably warm weather in February and March. On 2-25 a Yellow-billed Cuckoo was seen at very close range crouched against a window trying to get warm following the passage of a cold front the previous night (E.W. Sallati). This is 55 days earlier than the recent average arrival time. Then on 3-12, Mrs. Katherine Goodpasture and Earl Bishop found both a Broad-winged Hawk and an Eastern Kingbird! These two birds were 31 and 33 days earlier than their recent average arrival dates respectively. It is records like these that make ornithology truly a fascinating vocation or avocation.

JOHN C. OGDEN, 515 Fairfax Avenue, Nashville 12.

LEBANON.—We have been intrigued by an over-wintering and apparently injured Brown Thrasher. He headquartered during the early part of the winter in the shrubs of the Boutons' back yard in Lebanon. He fed on the ground under and about the feeder but never on it. He was never seen to fly though he was observed at the Hobbs feeder six blocks away and at two other places about town. His crouching posture while feeding identified him. He remained at Boutons' to be counted in the Christmas census on January 2 but disappeared the next day.

January 28 was the third day of driving sleet and snow showers. At 9 o'clock that morning the Brown Thrasher appeared under our feeder here at Cabincroft, seven miles south of Lebanon. Had his instinct for southern

migration pulled him painfully over that length of frozen hills and hollows? He still fed in his characteristic crouching posture but flew to the branches of near-by trees and finally into the rambler rose clumps along the garden fence. He repeated this performance for a few mornings but was gone with the ice on February 3.

On February 26 the Brown Thrasher was back at the Bouton feeder, his power of flight improved and most of the crouch gone from his feeding posture. He was last seen on March 6. But, before then, the time had come for Thrashers to move north, even to arrive here. We can speculate that these incidents almost pinpoint the time at which instinct went into reverse for this poor bird and he started limping north. He made the seven miles north in two days' less time than he took for the same distance south. This may indicate, we fondly believe, that his strength is sufficiently restored to enable him to go successfully through the nesting season somewhere about here.

In-flight from the south increased the duck population on Old Hickory Lake refuge from an estimated 9,000 at the time of the census to an estimated 15,000 on March 15 when another survey was made. The actual in-flight has been greater than these figures indicate since 1,600 man-days of hunting on the lake resulted in the taking of 2,000 ducks. The in-flight included about 500 Wood Ducks, some of which will nest near the lake. All others are expected to be gone by the early days of April.

There are more Great Blue Herons on the lake than ever before. Twenty-two individuals have been counted in the refuge.

DIXON MERRITT, Route 6, Lebanon.

COOKEVILLE.—Winter finally came with a vengeance in mid-February with a full week of snow and the temperature ranged between 30° and 3°. Many birds returned to almost deserted feeders. Warmer days between Feb. 20 and Mar. 3 caused many buds to open, among them, plum and pears. After this came THE BLIZZARD on Mar. 4. It was short and mostly bluster but it gave us a light freeze and the eighth snow of the season, nevertheless enough to make the feeders attractive again.

Several chapter members (S. and M. McGee, C. H. and T. T.) had an excellent number and variety of winter birds in their back yards. The first Brown Thrasher of the season 2-25 in the Hollister yard; Meadowlarks 2-20 (12) and Robins 2-22 on the Tech. campus. Mourning Doves and Meadowlarks paired off 2-27. Flocks of Crows (500?), Grackles and/or Starlings (10,000?) were found by Tech. students about 10 mi. north of Cookeville. These boys are trying to trace the feeding range of the Crows in relation to their roosts.

By Mar. 1, Starlings were becoming scarce and Grackles were appearing in small flocks. With the increase in food available, these are likely to disappear completely from the Upper Cumberland area.

P. L. HOLLISTER, Biology Dept., Tenn. Tech., Cookeville.

CHATTANOOGA.—A winter very much in contrast to last is the report here. Early winter cold this season was not accompanied by snow, and since late January, temperatures have been absolutely Springish. So no snow—much less news from the feeder. The Evening Grosbeak has not its last year invasion, a fact which will probably raise no eyebrows around the State. Nor have we a single Pine Siskin. And the Purple Finch, so abundant last year, has been downright sparse in 1961. We have at hand just three reports on this species since January 1.

It has been an interesting winter for waterfowl. Benton Basham heralded the start with his discovery of the Oldsquaw off Harrison Bay State Park on the first day of the year. Here was an area first. All through January and into February, this species could be seen at different points along the shore of Chickamauga Lake. The five Mr. Basham noted on January 28 was probably the peak of the "invasion."

The area's first January (22) records of the Common Merganser and the Common Loon were brought in by Adele and Gene West.

On Sunday, March 12, eighteen members of the Chapter took part in a field trip to the Hiwassee Island State Waterfowl Refuge. A trip highlight —six Ring-necked Pheasants seen during the day. Mr. Samuel Rogers, District Game Biologist of the Tennessee Game and Fish Commission has this to say on the Pheasant at Hiwassee:

"Hiwassee Island . . . was the site of the last release made in this area. (Hamilton and surrounding counties). 422 pheasants were placed on Hiwassee Island on November 5, 1959. The water surrounding the island did not keep these birds from moving. A few days after release they began to fly from the island. There are very few birds on the island at present." Incidentally, one of the six pheasants left the Island when flushed on the field trip.

On November 4, Benton Basham reported this same species in the Sequatchie Valley near Dunlap, no doubt the remnant of an earlier release in that section.

The Barn Owls reported by Ralph Bullard and Kenneth Dubke on the Christmas Census bears a bit more of a note here for it was our area's first recorded report on this species. The roost for these birds was the underside of a bridge on a heavily-travelled city street in Chattanooga—within easy range of a large city garbage dump. Several club members have since reported venturing to this roost for a view of these unusual birds.

Arnold Aslinger, Refuge Manager on Hiwassee Island tells of Bald Eagles seen on the Refuge on 1/8 and 1/16, three individuals on one of these days, two on the other. A week after this, Adele West also identified this very uncommon bird.

The waterfowl inventories conducted by the Refuge staff through the winter show positively that the Blue Goose can now be classified as a winter resident around here. Between 10 and 20 individuals were seen during five separate counts conducted over a span of 2 and a half months. The Refuge records show the duck populations down somewhat this season in contrast to other recent years, especially the Black Duck and the Mallard.

Perhaps again the Sandhill Crane caused the most excitement when it was seen flying overhead by members of the field party of March 12 who were on the way home from Hiwassee Island.

ROCK L. COMSTOCK, JR., 1624 S. Rugby Place, Chattanooga 11.

KNOXVILLE.—Three rare Fall records were made last year, 1960, as follows: a Lincoln's Sparrow seen on September 26 by Joseph C. Howell, a Short-eared Owl on November 24 (see beyond), and a Bewick's Wren seen on November 26 by John Elson. The Short-eared Owl was shot by a hunter on Thanksgiving Day, November 24, on a farm in southeastern Knox County. It was mounted and placed on exhibit in a local sporting goods shop, where it was examined and identified by James T. Tanner. It was an unusually white bird, being almost completely white below. This is the second record of a Short-eared Owl in Knox County, the first having been made in October 1930.

The winter season began seriously with snow and colder than average weather in December, followed by a comparatively warm and dry January. Heavy rains came in February with warm weather in late February and early March so that vegetation in mid-March is developing faster than normal.

Ducks have been relatively scarce in Knox County this winter. On March 5 the Knoxville Chapter of the T. O. S. made a field trip to Paint Rock Refuge on the Tennessee River below Loudon. About 400 Canada Geese were seen, but few ducks were presnt. Hugh Johnson, the wildlife agent for the area, said that the sloughs and backwaters had frozen over early in the winter and that there had been very few ducks in the area since then.

Common Snipe have been more numerous in Knox County than in several years; 83 individuals were counted on the Christmas Count on January 2 and on February 7 about 70 were found in one small area. Woodcock were singing and performing near Mary Enloe's home on the outskirts of Knoxville between February 17 and March 2, with five being the highest count of individuals at any one time. Several people visited the place to hear the performance.

Two large Starling roosts were established in or near Knoxville. The smaller was underneath the Gay Street bridge which crosses the Tennessee River, the birds roosting on the girders of the bridge. About three miles west of Knoxville, near Rocky Hill School, at least 10,000 Starlings roosted in a small pine thicket. Cowbirds, Grackles, and Rusty Blackbirds also utilized this roost. The birds poured into the roost area so rapidly that it was never possible to make a reasonable estimate of the numbers. Several large winter roosts of Crows were established in Blount County; they apparently broke up during the first week in March.

A flock of 30 Pipits was seen on January 2; these birds are not observed here every winter. Winter Wrens have been reported more regularly than in previous winters. Red-breasted Nuthatches have been absent this winter, and Phoebes, Purple Finches, and White-crowned Sparrows have been scarcer than usual. There have been no records of Evening Grosbeaks or of Pine Siskins around Knoxville.

JAMES T. TANNER, Dept. of Zoology, U. T., Knoxville.

GREENEVILLE.—In our report this time there is a notable scarcity of certain species quite common in this area during the winter months. "No Purple Finches so far this winter" is the lament of several of our members. One large flock was reported recently, feeding in a budding Elm tree in the yard of the Nevius home. Usually the Clinards enjoy many Finches and Cedar Waxwings in the shrubs around their home—this year—none. Marjorie Clemens reported a large flock of Waxwings moving through her yard March 4—they appeared to be in a hurry, stopping only a few minutes. She reports no Mockingbirds and very few Robins. She has had more Rufus-sided Towhees than usual around her home and on the unusual side —a Brown Thrasher has been eating at the feeders all winter.

Birders are always hoping to see something different—Helen White did one day when she looked out—a Starling with white tail and white lower mandible feeding in her yard.

March 5, three members went "duck hunting" for about three hours during the morning. Being night-duty nurses, they didn't feel up to doing too much hiking, and really did not see many ducks. Several were flying

over Davy Crockett Lake, too far up to identify and a few Mallards, but they did see three Herring Gulls on the lake in the same place three were seen on a previous trip. They also saw three Canada Geese and two Blue Geese on a small lake in the same vicinity. A record was kept of all species observed that morning—much to their surprise, their 'count' amounted to 34 species in less than three hours of just casual looking. (C. Christiansen, G. Horton and E. Darnell).

Two previous records of Blue Geese in Greene County are—in 1952 in a corn field along Roaring Fork Creek 25 were feeding and on Lick Creek near Mohawk Apr. 2, 1956 7 were observed. (RN).

Mar. 17—A Brown Thrasher and a Vesper Sparrow were seen by Richard Nevius. He also reports larger numbers of Starlings than usual this winter, and large flocks of Common Grackles not usually present during the winter months. Migrating shore birds were heard flying over the lowlands along the creeks near the Nevius home about the 10th of March.

No Evening Grosbeaks have been reported in this area this season.

ELVA DARNELL, Rt. 4, Greeneville.

KINGSPORT.—After a hot and humid September with no rain we had a warm October with our first heavy frost delayed until the first week in November. For the third fall no shore birds were observed. We recorded one flight of hawks over Kingsport, 124 seen by Mr. and Mrs. Arthur Smith on Sept. 24. Pied-billed Grebes, Ring-necked Ducks, Lesser Scaup, and White-throated Sparrows arrived early. Nighthawks, Catbirds and Brown Thrashers stayed late with Nov. 3 as the last date for a thrasher. The last three weeks of November were warm with temperatures as high as 68° at noon. We first recorded Common Loon on Nov. 15 and again Nov. 21 with Pintails. The first ice appeared on the ponds Dec. 1. By the first week of December to our water birds we added Horned Grebe, Mallard, Coot and Ring-billed Gulls. The second week of December brought the first snow and a low of 7°. By the last week of December we had Red-throated Loons, about 200 Mallards with 150 Black Ducks, a few Redheads, Goldeneye, a pair of Oldsquaw with an immature, and a pair of Hooded Mergansers.

For the next six weeks we had many light snows and unusually heavy rains. The ducks dwindled to a few Black Ducks, Lesser Scaup and Goldeneye, augmented occasionally by Gadwall. January 26 we had a very heavy sleet during the night. The next morning at my feeders I saw many birds dragging ice coated tails. One Song Sparrow was tail-less; I supposed his feathers were frozen to his perch and pulled out in his attempt to fly. The snows continued during the first two weeks of February.

But by Lincoln's Birthday the Cardinals, Purple Finches, Towhees, Field Sparrows and Song Sparrows were singing, and flocks of Robins, which had been missing during the winter, appeared again on the lawns. On Feb. 26 Howard Young saw a Woodcock scratching in the leaves of his back yard; this was, perhaps, our most unexpected observation of the season. By the first of March the temperature was up to 65° at noon. The wintering ducks on the lakes had been joined by Wood Ducks, Canvasback, Bufflehead and Common Mergansers. Mr. and Mrs. J. Winston Smith saw a flock of 10 Canada Geese on March 5.

To generalize about bird populations is always difficult, and not always profitable, but I shall venture a few conclusions about the past season. Although we had the usual species of water birds in the winter the numbers were low. Wood Duck are, perhaps, increasing, as in the past few years

we have seen them more frequently in several different areas over longer periods of the year. Noticeably scarce this past season were Black Vultures, Carolina Wrens, Cedar Waxwings, and White-crowned Sparrows.

ANN HARNEY SWITZER, 1620 Fairidge Place, Kingsport.

BRISTOL.—Increased interest as indicated by good attendance at meetings has characterized the club recently. Most observations have been at feeders and from roadside by car.

On Mar. 1 and 2 a King Rail was observed by Mr. and Mrs. Herbert Miller. The bird was bantam hen size, was wading and feeding in a swampy area near Bristol. Both days the bird was observed late in the afternoon with the following characteristic features observed: breast, reddish brown; indistinctly brown striped back; horizontal stripes on belly; short tail sticking up and white under tail coverts; legs long and bill about 3½" long. Its call, after dusk—a rapid kic-kic-kic. Trips on the two succeeding days revealed a large cat patroling the area but no evidence of the rail.

Robert Quillen is collecting data on a Horned Lark's nest in the Bluff City area. A flock of Purple Martins, not common in the area, has been present for several days and a non-member is rushing work on an apartment house for them.

Evening Grosbeaks have been absent this winter in contrast to their abundance during the 1959-60 season.

MRS. HERBERT MILLER, 801 Piedmont St., Bristol, Va.

ELIZABETHTON.—On all week-ends during Sept. and the first one in Oct. Operation Recovery was carried on at the same locations as during 1959. Our own group assisted by personnel from the Bristol, Greeneville and Chattanooga chapters banded 1302, removed and released 157 repeats and six returns representing a total of 60 species. Netting and banding was continued on a reduced scale on all favorable week-ends during the winter. For the calendar year of 1960 we banded 3,008 birds of 87 species. Some of the rarer birds banded were: Bicknell's Thrush, 1; Connecticut Warbler, 1; Dickcissel, 4; Lincoln's Sparrow, 15. The most abundant species were: Indigo Bunting, 830; Song Sparrow, 285; White-throated Sparrow, 260; American Goldfinch, 241; Cardinal, 125; Myrtle Warbler, 124; Swainson's Thrush, 121; Field Sparrow, 113 and Catbird, 105. The only other species represented by more than 42 individuals was Purple Finch, 67, all of which were trapped and banded during the heavy snows beginning Feb. 13 and ending Mar. 20. The only Purple Finches reported during the past winter were on the Christmas Count.

Weekly trips have been made to the Roan Creek area of Watauga Lake, except when the roads were too slick to travel, to keep tabs on wintering waterfowl. Numbers have been much lower than last winter when there was much more snow and colder weather. These observations will be summarized at a later date.

Some noteworthy observations and first arrival dates follow: Oldsquaw, 2-12 (8); Common Merganser, 2-12 (19); Phoebe, 2-25 (scarce); House Wren, 3-11 (very early LRH); Bluebirds, very scarce; Savannah Sparrow, 2-26; Vesper Sparrow, 3-10 (KD); Chipping Sparrow, 3-6 (KD). Pine Siskins were reported on Roan Mountain from 10-23 through Dec. Two reports of Snow Buntings on Big Yellow Bald Mountain, 12-11 (1), 12-25, (15) (FWB). Evening Grosbeaks have been absent all winter.

LEE R. HERNDON, 1533 Burgie Place, Elizabethton.

THE QUEST OF THE TROGON

The description in **Peterson's Guide** had always fascinated Lou and me—

> "Coppery Tailed Trogon . . . 11½. Male:—head and upper parts dark glossy green (blackish at a distance) under parts bright rose red, separated by a white band from the dark head . . . Range:—Mts. of s. Ariz."

Of course, the "Mts. of s. Ariz." also appear to be the habitat of numerous exotic species—exotic, that is, to a Tennessee father and son. There one looks for the hummingbirds of Mexico, which range north in summer—the Broad-billed, the White-eared, Rivoli's, Costa's, Black-chinned and a half dozen others. In the same area are Band-tailed Pigeons, Beardless Flycatchers, Vermillion Flycatchers, Vaux's Swifts, Red-faced Warblers, Lucy's Warblers, Black-throated Gray Warblers and many many others.

The more that Lou and I read about the wonders of the Southwest, the more determined we became to go birding in the "Mts. of s. Ariz." and to see that rarest of U. S. species, the Trogon. From many previous automobile trips to the west, we were well acquainted with most of the species of the Rocky Mountain, Great Plains and Pacific Coast areas. Those are areas relatively easy to reach, accommodations are good, and the weather in summer is generally pleasant. Southern Arizona, though, sounded different. A study of the map showed hundreds of miles of desert, with few towns and little hope for good places to stay. Besides, Lou was 13 in 1959, and the unfortunate demands of the County School Board effectively restricted our birding trip to summer. Summer along the Mexican border, in the desert, is hot!

All these drawbacks to a southern Arizona trip discouraged the rest of the family, so Lou and I planned a trip **a deux** for July. Since motels would be rare, we planned to camp. Incidentally, this was very wise, as camping proved to be the only practicable way to see the remote bird areas of the Southern Southwest. Pettingill's **"Guide to Bird Finding, West,"** was our chief planning book, and it is almost 100% reliable. With its help, and that of maps, Park Service pamphlets, and other material, we planned a trip by car with five days in the Pinos Altos Mountains in Southwestern New Mexico near the Arizona border, an equal time in the Chiricahua Mountains in Southeast Arizona, two days in the flat desert near Tucson, and three days in the Huacachua Mountains in South Central Arizona.

This itinerary, we felt, gave us an opportunity for some time in several of the habitat associations found in South Arizona—the southern desert (4500-5000 feet) the lower canyons and the live oak mountain slopes (5-7,000 feet), and the ponderosa pine forests (above 7,000 feet). En route to and from Arizona, we passed along the Texas coast as far south as Galveston, and took in much of the southern plains of Texas, New Mexico and Oklahoma.

The 1959 trip lasted from June 27 to July 17, and we had marvelous luck in finding birds. One afternoon for instance, driving near Shamrock, Oklahoma between four and five P. M. we saw **sixteen** Mississippi Kites. On the morning of July 9, in the Chiricahua National Monument, we were awakened by the screaming of five Golden Eagles, circling the cliffs above our tent. They were apparently nesting or roosting on a ledge, below

which the rocks were white with droppings. Altogether, on the trip we added 115 species to our year's list and 75 to our life list. These included some real rarities—the Rufous-winged Sparrow, Black Rail, Sulphur-bellied Flycatcher, Beardless Flycatcher, and Sennett's White-tailed Hawk. But no Trogons!

We had really searched for Trogons! There was a rumor that a pair had nested in 1958 in a canyon on the eastern slope of the Chiricahuas, near the S. W. Experiment Station of the American Museum. For several days we haunted this canyon, climbing among the manzanita, scrub oak and sumac which clothed the sides of the dry stream bed, and walking endlessly under the sycamores, ash and other deciduous trees which lined the watercourses. But we didn't see a Trogon and no one to whom we talked knew of any.

After we got home, Trogons became an obsession with both of us, and we were determined someday to take another trip to the "Mts. of s. Ariz." and find our bird.

In the spring of 1960, a business trip to South Texas permitted me to get off for a wonderful weekend at Rockport, Texas, that mecca of migrant study. There Mrs. Connie Hager, the best known field observer in Texas, took me into her motel and told me where to look for species I especially wanted to see—but that is another story. My second night in Rockport, I was surprised and pleased at the arrival of an old friend, Dick Cunningham of Miami. Dick is a research biologist for the National Audubon Society, and he had planned to go on the 1959 trip with Lou and me, but could not make it. He knew about our unsuccessful Trogon quest, and that night in Rockport told me that we had simply missed our birds—they were there in 1959!

Dick said a pair had nested in the canyon in the Chiricahuas—the one we had searched so long—according to several reports made to the Audubon Society.

That did it. Lou and I had to return in 1960.

This time we headed straight for the Chiricahuas and our canyon. It was the same time of year, and we reached the canyon on July 6th. It was hot in the desert, but at 5500 feet, the heat was not too bad in daytime, and the nights were delightful. There are many excellent camping grounds maintained by the National Forest Service in the Chiricahuas, and there are few visitors, even in midsummer. After making camp in the late afternoon, we prospected a bit for birds, and found a Beardless Flycatcher in the same tree he had occupied last summer. A Black Phoebe was nesting near us, and great flocks of Band-tailed Pigeons made rustling noises as they came into the trees to roost. After dark, Lou discovered a nest of Mexican Spotted Owls with some young which kept peeping out of the hole in the tree. We were up late in entirely unsuccessful attempts to photograph these owls.

Next morning, at sun up, Lou and I were walking up the dry watercourse, paying little attention to any bird which didn't have some resemblance to a Trogon. About 5:30, and a quarter of a mile from camp, we heard a croaking which sounded like a bull frog to me, though Lou immediately identified it as a Trogon. Peterson describes the Trogon's call as "kown, kown." Pough, in Audubon's Western Guide, renders the call as "coa, coa coa." In fact, it is somewhat closer to the call of a Yellow-billed Cuckoo than anything else I can think of.

At any rate, we discreetly pursued the calling bird for some 200 yards through rather thick chapparal, and finally discovered our Trogon on a sycamore branch 20 feet off the ground. He was nearly a hundred yards from us, across the canyon, so we circled around and crossed the dry creek-bed to get a closer view. We wound up at the edge of a clearing, rimmed with sycamore and ash, with a few low conifers. In the clearing, were not one, but three male Trogons. (We did not see any females.) They stayed in the clearing for fifteen minutes, perching on low branches, and changing their perches occasionally. Needless to say, Lou and I sat quietly, and the birds at times approached within fifty feet. Their brilliant yellow beaks are cardinal-sized—otherwise, the birds looked and acted like parrots. Their coloring is beautiful, and so bold as to be a bit unbelievable. Peterson's description is quite accurate, and Pough's use of the adjective "lovely" is well warranted.

Finally, the birds left the clearing, going up the canyon. It had been, certainly, the most exciting quarter hour of all my birding. Lou evidently felt the same way, for as he got up, he came over and shook hands. He said, "Well, Dad, I guess we can give up birdwatching after this." I knew he didn't mean it literally, but I knew exactly what he **did** mean.

Now we want to see the Rose-throated Becard. It lives in "Mts. of s. e. Ariz."

LOUIS FARRELL, Jr., 4419 Iriquois Ave., Nashville 5.

ROUND TABLE NOTES

BASIN SPRING OPERATION RECOVERY—Two banders and eight assistants "manned" with a deal of vigor and enthusiasm 6-10 mist nets at Basin Spring from Sept. 10-Sept. 20, 1960 in an Operation Recovery program. The Operation was organized and carried out as recommended for similar programs along the Eastern Seaboard. This limited operation is not expected to contribute significantly to Recovery as a whole but there is that old rhyme about "little drops of water and little grains of sand." In addition to 142 new birds banded of 34 species plus 1 unidentified Empidonax our Basin Spring Station gave an introduction to another technique for studying migration and individual birds and gave participants the pleasure, oft times the thrill of studying species rarely examined in hand. We handled both Gray-cheeked and Swainson's Thrushes, measured Traill's and Acadian Flycatchers; we blew for fat on Magnolias that were number 3 and Ovenbirds that had a trace. We measured and weighed, discussed and looked up and learned an awful lot. Earl was the Founder of the "I-Let-One-Get-Away" Club and John was elected President when he finished with the highest score. Yours truly turned out to be the most distinguished member with the escape of the **only** Kentucky Warbler netted. Early morning mists gave the woodland a mystical aura from which calls of thrushes came haunting and unreal. One senses migration in this environment but one knows as well as feels when a "wave" crosses the net lane; one puts real meaning into the expression "here today, gone tomorrow" when, after banding Indigo Buntings steadily for 2 or 3 days, suddenly there is not a single one, then on the day after that there are more than ever before without a single repeat.

It is recognized from previous years of field observation that Basin Spring is not a location for concentrated migratory flights. There is no topographical funnel or ecological magnet there. It is a deciduous woods with scattered cedars and pines which slopes steeply from 950′ to narrow valleys and draws through which Bedford Creek and Basin Spring Branch flow. Net lanes crossed wood's-edge, stream's-edge and old fields.

Hours of operation ranged from 6:30 a.m. to 5:30 p.m. totaling 543 net-hours. Temperatures ranged from 52° at 6:30 a.m. on Sept. 15 to an 87° high on Sept. 19 with temperatures during netting hours mostly ranging between 70 and 80 degrees. All birds were weighed, wings were measured and estimates of migratory fat recorded.

Numbers of principal species banded were: 25 Indigo Bunting, 17 White-eyed Vireo, 14 Magnolia Warbler, 11 Cardinal, 10 Chickadee, 7 Catbird, 6 Tennessee Warbler, 6 Chat. One Hummingbird, 1 Philadelphia Vireo, the thrushes and Empidonaces were of especial interest. Ten species of warblers were banded. One nestling Yellow-billed Cuckoo got a band.

Seventy-five per cent of the White-eyed Vireos were immature, as were 5 of the 6 Chats. All the Catbirds were immature and with 1 exception each showed recognizable deposition of fat. The warblers, thrushes and flycatchers consistently had demonstrable fat. In both the White-eyed Vireos and Indigos slightly more than half failed to show fat.

So small a series of birds does not allow significant generalizations but these few notes indicate some of the things we can look for from an OR series of birds. This eleven-day operation has too many variables for any correlation of migration with weather. The fact that 142 new banded birds represented 34 species indicates the sampling value of a netting technique. Or we may say that since 1 of each 4.2 birds represents a different species we could suspect that Basin Spring is not an area of concentrated flight but one through which a fair spread of species moves.

Those taking part in this program were: Banders, Alan Munro and Katherine Goodpasture; Assistants, Sue Bell, Earl Bishop, Albert Ganier, Ernest Goodpasture, Amelia Laskey, John Ogden, Henry Parmer, and Jennie Riggs.

KATHERINE A. GOODPASTURE, 3407 Hopkins Lane, Nashville.

BANDING BIRDS OF PREY.—During a six weeks portion of January and February 1961, we in Nashville were fortunate enough to have as a visitor Mr. Jack Oar of Rockford, Illinois. Mr. Oar is a member of the Chatri Club, a hawk and owl banding organization in Illinois and Wisconsin and while he was here numerous trips were made throughout Davidson County and surrounding areas to trap and band birds of prey. The type trap which he brought with him and that we used was the Bal Chatri, a quonset shape wire trap which holds a mouse or Starling, depending on the size of the trap and type bird of prey desired. When a hawk or owl lands on the trap trying to get the bait inside it, the bird is supposed to get his feet caught in one or more of the many monofilament nooses on the outside of the trap. The Bal Chatri is successful to varying degrees depending upon the type birds of prey desired but it seems to work best with Kestrels. During the time Mr. Oar was here approximately 90 Individual Kestrels were seen, traps were put out on roughly two thirds of these and 30 were caught. Also caught and banded during the period were 7 Shrikes, 1 Red-tailed Hawk, and 1 Screech Owl.

Other important accomplishments made on trips with Mr. Oar were the location of two active territories of Barn Owls, one in the Cumberland River Bottoms in Nashville centered around a cement plant in which they probably breed. The second territory was below Ashland City, Tennessee also in the Cumberland River bottoms. Several barns were located that were used as feeding areas for this pair.

Also on one of our trapping trips a Harlan's Hawk was found along the north side of Old Hickory Lake about 3 miles southwest of Gallatin, Tennessee. The bird was in the dark phase and all field marks were seen as it soared low, once even circling low over our heads. It was essentially a black buteo with a white tail. There was a mottled dark sub-terminal band on the top of the tail and the wing primaries and secondaries from below were pale and barred.

This is apparently the third Tennessee record for this species, the other records coming from the Memphis area in December and February 1940-1941, (THE MIGRANT 12:15) and in early March 1957, (THE MIGRANT, 28:7).

JOHN C. OGDEN, 515 Fairfax Avenue, Nashville 12.

DEPREDATIONS AT MIST NETS.—During the fall of 1960 the Elizabethton Chapter of TOS cooperated with the U. S. Fish and Wildlife Service in Operation Recovery. On several occasions, during the short intervals which we were away from the nets, a predator had visited a net and only fragmentary remains of half a dozen birds remained as evidence of the visit. Usually the incident occurred before mid-morning and only one time during the day. The incident usually took place at a net, either in or near a wooded area. Usually little or no damage was done to the net, although bird remains, such as wings, an occasional leg bearing a band or just a mass of feathers were found anywhere from the top to the bottom shelf, or from 8′ above ground to the lower shelf which was near ground level. Occasionally an almost whole bird would remain with only the head crushed.

These depredations continued over several week-ends, since we operated only on week-ends, without any intruder being observed in the vicinity of the net which had been visited. On the first visit to the nets, by the writer, after they had been unfurled on the morning of 10-29 while approaching a net under the cover of a clump of willows, a small accipeter was seen making a strike at a White-throated Sparrow (fortunately it missed) from the same side of the net on which I was approaching. Being within a few feet of the bird and being able to rush it at almost right angles to the net, and the bird attempting to escape directly away from me, I was able to capture it before it could escape. It proved to be an adult female Sharp-shinned Hawk *(Accipeter striatus)*. We did not want to release it in the area in which we were netting, therefore we retained it in a cage until we had finished our netting operations the following afternoon. Since it failed in its attempt to steal its breakfast, a little later on we captured some House Sparrows in our nets, which we placed in the cage with the Hawk. These it would not capture while we were observing but during our absence the sparrow would be devoured and upon our return all the visible remains consisted of a mass of feathers.

The hawk was released wearing band No. 494-77259. A telephone call on 11-7 revealed that the bird had been captured in a barn on the State Line Road, Route No. 17, South of Elizabethton, about seven air-line miles southwest of the banding location. The bird had been injured and suc-

cumbed a short while after recapture. The small boy, Earl Wayne McKinney, whose mother relayed the information to me did not know how the injury occurred and when it was reported to me the dead bird had been disposed of for several days, therefore it would have been impossible to determine the type or extent of the injury to which it succumbed or to make a study shin of the specimen.

On several occasions, usually just at dusk but sometimes at dawn Screech Owls were known to raid the nets. Most of the time they would be caught in the net and would remain in the net-pocket making almost no effort to extricate themselves, and remain almost motionless while being removed from the net. In some instances they were found with a partially devoured bird still in their talons together with many folds of the net. Only a few times was there evidence of owls having committed depredations and subsequently escaped and these were usually where the prey was near the ground or where the weight of the owl would have borne the net to the ground.

LEE R. HERNDON, 1533 Burgie Place, Elizabethton.

BURROWING OWL WINTERS IN MISSISSIPPI.—On a cotton plantation about 60 miles north of Vicksburg, Miss., one of these small owls was first seen in November, 1959. It was seen again several days later on the farm roads and at the edges of fields. Being apparently unafraid of automobiles, it was observed quite readily a number of times at less than 100 feet. When disturbed, it would fly only a short distance and assume a crouching position behind vegetation in an attempt to hide.

At this time of year the fields in this level, alluvial country undergo a change, in that the cotton stalks are cut down and disced or plowed under which leaves the surface bare and open. During December the owl was not seen. However, in January in one of the bare fields described above, a conspicuous mound of dirt was noticed. This was first thought to be a fox's den but a closer look revealed the small brown owl crouched in one of the burrows that had been tunneled into the mound. The bird was quite reluctant to leave his "castle" but leave he would when approached too closely, i.e. about 50 feet. After a short flight it would bob up and down on its long legs and make a clucking noise as if in protest to the intrusion.

The most interesting feature of this observation is the remarkable amount of dirt that was moved by this small bird. The actual mound measured 11 to 12 feet in diameter and rose to a height of about 15 inches at its peak. This mound was thoroly tunneled thruout, without any set pattern as to depth or direction. The longest burrows were about 6 feet in length and large enough to accommodate a small dog. In the immediate vicinity, other burrows were started and abandoned. As of the 27th of March, this small, diligent owl is still with us and is still digging.

ELIE GANIER, JR., Hollandale, Miss.

NOTE.—In their western breeding range, the Burrowing Owl appropriates the holes of prairie dogs and ground squirrels for their homes. The small population which nest in southern Florida, where the above mentioned animals are not present, dig their own burrows. The fact that this Mississippi bird followed the habits of the Florida race could indicate that it was a displaced visitant from that state. The current A. O. U. Check-list gives Baton Rouge, La. as a breeding area for this owl but Dr. George Lowery advises that no such record is now accepted.—A. F. Ganier.

A SURF SCOTER AT NASHVILLE.—On Oct. 31, 1960 the writ visited Bush Lake at Nashville. The only bird on the water was a lar black duck with two white face-patches. It could have been a juvenile o either the White-winged or the Surf Scoter, as at the distance it was improbable that the white speculum of a floating bird could be seen. As if to answer the question the duck took off, made two fast trips around th lake and landed in the center again. It landed in typical scoter fashion with its wings extended upward as it plowed into the water, and for a short interval after alighting. In flight the absence of the white speculum proved it to be the Surf Scoter, our first Middle Tenn. record since 1931. (MIG. 27:4,78) John Ogden and Alan Munro came down to help with the identification.

The following day the scoter was seen by both Amelia Laskey and the writer. The next day, Nov. 2, the duck was missing at the lake, but a bird in identical plumage was seen near the dam on Old Hickory lake by Alan Munro. From Nov. 4 through 7 a similar plumaged scoter was at Radnor lake. On Nov. 10 the bird was back at Bush. On Nov. 11, 12, 13, 16, and 19 it was seen again at Radnor. Did one duck travel around this much, or did we have a visit of several juveniles during this period?

HENRY E. PARMER, 3800 Richland Ave., Nashville 5.

VISIT TO A BLACK VULTURE ROOST.—On February 4, 1961, Dr. Charles Farrell, Dr. D. Franklin Farrar and myself visited a vulture roost in an attempt to capture some vultures to use in conjunction with the two doctors' study of bird flight. The roost is located 12 miles north-east of Murfreesboro, on Route 96. We were at the roost for almost four hours, and estimated the number of Black Vultures there at 200; no Turkey Vultures were seen. As we approached the roosting area, many vultures arose from their perches on or near the ground and began soaring overhead. Once when we retreated the vultures folded up their wings and dropped in with spectacular swoops. As they leveled off we could hear the wind whistling through their feathers, although we were more than a block away. At other times they returned in a less impressive manner.

As an added treat, we observed an immature Golden Eagle soaring among the vultures; however, it didn't stay with them but soon disappeared to the north-east.

JACK OAR, 1603 Log-cabin Ave., Rockford, Ill.

HOUSE SPARROW—UNUSUAL BEHAVIOR.—During Oct. and Nov. 1960 an interesting phenomenon was observed at one of our feeders. House Sparrows (Passer domesticus) brought twigs and pieces of grass and placed them on a shelter type feeder located near a window. Many of the pieces of grass and twigs were dry and dead but pieces of live hemlock were snipped from the hedge beneath the feeder and placed on it.

The material was placed on the shelf in a promiscuous manner and several times replaced or returned after it had been removed from the shelf. There seemed to be no reason for placing the material on the feeder unless it was an attempt to save the food for themselves by trying to hide it from other species.

If anyone has had similar experiences or knows of the reasons for such conduct, or would like to express an opinion regarding this behavior, I would be eager to have your comments.

FLETCHER R. BINGHAM, 216 Edgewood Road, Bristol, Tenn.

FALL SHORE BIRD MIGRATION AT NASHVILLE

For those of us who are especially attracted to shore birds, but are so unfortunate as to live in areas with few suitable habitats for these birds, the result of many searching hours in the field often ends in frustration. But if we really have the "fever" then the many empty hours in the field are more than justified when we do make a "good find." Such is the case in the immediate Nashville area during the fall shore bird migrations. The places which are so dependable in the spring have, for the most part, become dry and weedy by Aug. and the water level in the rivers and their lakes is kept too high to expose mud flats until after the peak of shore bird migration. I don't mean to give the impression that no shore birds are seen in the fall, on the contrary, there are small numbers seen in such places as Bush Lake from Aug. through Nov. But with the exception of Spotted Sandpipers and Dunlins, few shore birds stay at this lake for any length of time, therefore even this, our best area, can not be called truly dependable.

Because of this difficulty we have had to work even harder in our search for shore birds. As a result we have quickly discovered the importance of cold fronts since they supply the two things we need most, suitable habitats and the birds. These cold fronts give us the right habitats, although temporarily, by converting the dry field in the Cumberland River bottoms into wet, muddy fields containing many pools of water, due to the rain which usually accompanies these fronts in Sept. and Oct. They bring us the birds because the cold air stimulates bird migration in the fall, therefore large numbers of birds usually follow close behind the actual cold front.

Two such cold fronts which passed through Nashville in Sept., contributed our two peaks in shore birds for this past fall.

The first such front started through this area on Sept. 10, 1960, bringing rain that day and a drop in temperature during the following night. There had been no shore birds in the river bottoms on the 9th but on the 10th 2 Lesser Yellowlegs, 2 Spotted Sandpipers, a Snipe and 16 Killdeers were found. Black Terns were at Bush Lake, which is located in these river bottoms, on both the 9th and 10th. The real increase came on the 11th, following the cold front passage. That morning it was cool and still overcast. The Black Terns had been joined by 12 Caspian Terns, a species which is rarely found in Nashville. The number of Killdeer had increased to over 50. Other shore birds had also come in. A flock of Least Sandpipers was found feeding in the fields along with one Semipalmated Sandpiper. The highlight of the morning however was 2 Buff-breasted Sandpipers *(Tryngites subruficollis)* which were found feeding in a field of newly sprouted turnip greens. This was only the second Nashville record for these birds which look and act more like little plovers than sandpipers (THE MIGRANT **30:** 35, 1959). Within two days all of these shore birds were gone, with the exception of some of the Killdeers.

The second cold front passed through on Sept. 17. No trip had been made to the area on the 16th but on the 15th the only shore birds were approximately 25 Killdeers and 3 Golden Plovers. The trip to the river bottoms made on the 17th was made during the middle of the day immediately following the passage of the front. It had been raining earlier in

the day and was still misty and very overcast during the trip. Both Caspian and Black Terns were again over Bush Lake. There were 12 Golden Plovers and one Black-bellied Plover feeding in a bare field near by. The highlight of this trip was a Knot *(Calidris canutus)* found in the river bottoms near 9th Avenue. At a distance it appeared as a very uniform gray bird with white underparts and looked about the size and shape of a Golden Plover. It was a shy bird and only after following it for over a quarter of a mile, through mud, were the white wing stripes and light colored rump seen well enough to confirm the identification. This is the first record for this species in Nashville and only the third for the state, the previous records coming from Memphis (THE MIGRANT **26:** 32, 1955; **26:** 47, 1955).

Other shore birds found in the river bottoms on the 17th were 1 Sanderling, 5 Pectoral Sandpipers, 5 Least Sandpipers, 1 Semipalmated Sandpiper, 2 Common Snipes, 1 Spotted Sandpiper, and the usual Killdeer.

The next day, Sept. 18, was warmer and clear, and the only birds found were the Golden Plovers and Killdeer.

Thus can be seen the importance that a cold front may have to anyone like myself who has the "shore bird fever".
JOHN OGDEN, 515 Fairfax Ave., Nashville 12, Tennessee.

BALD EAGLE NEAR NASHVILLE. — On the afternoon of Thursday, November 26, I took a trip with Mr. H. E. Parmer to the Two Jays Sanctuary owned by the Nashville Chapter of the Tennessee Ornithological Society. While Mr. Parmer was setting up a new feeding station at the cabin, I took a hike through the wooded hills around Two Jays to check on a family of Red-headed Woodpeckers that are spending the winter in a valley near our property. When I reached the valley, I found the six Red-heads still there, so I started back by a different route to look for other birds. About half way up one of the high hills bordering the creek I was surprised by the sight of a very large bird right over the tree tops. By the time I got a look at the bird through my binoculars, it had dropped down to about the same level as I was and was flying directly away from me up the valley. As long as it was flying away from me in that manner, I could not see any color, only its large size.

After it had gone about one hundred yards, the bird turned and flew up and over the far side of the valley and out of sight. When it made its turn and flew over the hill, I easily saw its white head and tail and dark body and wings, which identified it as an adult Bald Eagle *(Haliaeetus leucocephalus)*.

I have seen both the adult and immature Bald Eagle many times before at the Federal Wildlife Refuge on the mouth of the Duck River, but each time I see an adult bird, it is a thrill equal to that first time I saw this majestic species.

JOHN OGDEN, 515 Fairfax Avenue, Nashville 12, Tennessee.

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The simple truth about birds is interesting enough; it is not necessary to go beyond it.

EDITORIAL

In the midst of expressions of enthusiasm for the use of mist nets to which I hope my own report of a small Operation Recovery program contributes full measure I feel constrained to emphasize editorially that banders who use nets accept special responsibilities to the vast migrating stream of birds they aim to trap. Well managed nets may be handled enthusiastically and with much pleasure and satisfaction but not without the exercise of care, good judgment, and restraint.

It is wise for banders who anticipate using nets to work first with someone experienced in their use. There are tricks to all trades and for the welfare of the birds it is important to learn some of the tricks of this one before assuming full scale responsibilities. It is well to find if one has the patience of temperament, nimbleness of fingers and sharpness of eyesight to use nets with pleasure. The object of these remarks is not to emphasize any difficulty of operating mist nets but to say that we may spare ourselves frustration and discouragement by giving some attention to learning proper techniques. One of the best guides to the use of nets has been written by Seth Low, Bird-Banding July, 1957, pp 115-128. I would urge both banders and assistants to read and heed recommendations made by Mr. Low.

We must ever be aware that the object of any banding operation is to band, study, and above all release birds in good condition. Any time we fail to **release in good condition** we have lapsed into irresponsibility. Most accidents can be traced not to the use of nets but to their misuse—to a human fault or frailty.

So with careful planning, with the assumption of full responsibility and an exercise of restraint we would hope that a significant number of Tennessee banders and helpers will join those already enjoying concentrated fall banding programs. Maybe there is a Tennessee Flyway waiting to be mapped, a wintering population to be identified as to origin, a weather pattern to be analyzed or a new state species to be established.

KATHERINE A. GOODPASTURE, 3407 Hopkins Lane, Nashville.

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THE MIGRANT

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VOL. 32 JUNE 1961 NO. 2

SHARP-SHINNED HAWK (*Accipiter striatus*)

SMITHSONIAN INSTITUTION AUG 23 1961

ANNUAL AUTUMN HAWK COUNT 1960

By THOMAS W. FINUCANE

The 1960 count of southbound hawks compiled from reports of observations by members of the Tennessee Ornithological Society was the second largest in the history of the project and only a little below the total for the preceding year. The Broad-wing count was 10,135 compared to 10,998 for the last year and an average of 2,451 in excess of the eight years before 1959. The 1960 total for other hawks identified was 138 compared to 334 for 1959 and an average of 226 for the preceding eight years. The big Broad-wing counts can be attributed in part to the increase in interest and participation. This is shown by the figures for hours of observation, which were twice what they were before 1959. These comparisons are presented in detail in Table 2.

The outstanding item of the 1960 Broad-wing migration southward through our territory was the occurrence of a large flight near Chattanooga, September 25. The count, 4,985 was made at the Elder Mountain Fire Tower on this date and was certainly the most spectacular feature of the 1960 project and probably the outstanding event of the entire T. O. S. program to date. A detailed description by Mrs. Crownover will be found below in the NOTES. Also on September 25, a little to the northeast of the Elder Mountain Fire Tower, Mr. and Mrs. West and Buss Walker counted 463 Broad-wings. Fragments of this big cloud of hawks were seen in five other places, two near Knoxville and one north of Rogersville, September 25, and two in Sullivan County the day before. These five fragments had the common feature that each consisted of a concentrated flight of Broad-wings followed by complete absence of Broad-wings. For example, Mrs. Overton counted 639 Broad-wings in Dry Gap, near Knoxville, September 25, between 9:20 and 10:00 a. m. and not a single hawk after 10:00 a. m. In the same interval of time, Mrs. Darnell and Mrs. Christiansen saw 229 Broad-wings and none from 10:00 a. m. until noon when they left the observation post, the fire tower north of Rogersville. These were the largest totals for the season in the two areas and an all time record for the Knoxville area. Mrs. Overton's hawks were about 100 miles northeast of Chattanooga. They had more than five hours to arrive at Chattanooga at the crest of the big flight seen from Elder Mountain. The required average speed was less than 20 mph.

More than 600 Broad-wings were seen before noon, September 24, from Chimney Top; then for three hours afterwards no hawks of this species were observed in the area. A large flight had been observed near Kingsport 34 minutes before the first group of 300 passed over Chimney Top. Assuming that the same hawks were seen in the two locations, 13 miles apart, we calculated the average velocity to be 21 mph. Simultaneously the Broad-wings gained 2,000 ft. in altitude. At this rate, the 600

Broad-wings would easily make the 174 miles to Chattanooga to become part of the record count there, September 25. Besides Kingsport and Chimney Top, the eastern end of the T. O. S. Hawk Project had good coverage at the Mendota Fire Tower, McQueens Knob, and Camp Creek Bald. The weather was beautiful, and the hawks were flying.

The timing of the flight from Kingsport to Chimney Top was done with the assistance of a supersonic airplane which pushed a shock wave across the gap. When this shock wave hit Chimney Top, the hawk watchers there noted the time and recorded it on their data sheet. The exact time of arrival of a kettle of 300 Broad-wings 34 minutes later was also recorded. When the shock wave hit Kingsport, many people ran out to look at the sky. Ralph Elsea saw an enormous kettle of Broad-wings right overhead. Three miles southwest, Arthur Smith saw a stream of Broad-wings approaching. He counted 124 until the flight became too heavy to count.

These observations, for September 24 and 25, accounted for more than 70% of the total hawks seen by participants in our 1960 project. On September 24, Brownsboro and Elder Mountain had poor flights despite fine weather. The big mass of hawks had not yet arrived. Although part of this mass may have been the hawks counted east of Kingsport (about 800), the coverage in this area was good; and if there had been more hawks, more would have been observed. Evidently the Broad-wings seen in the Chattanooga area were mainly from regions north and west of Kingsport. Unfortunately, there were no reports from the area between Kingsport and Knoxville, September 24.

The Mendota Fire Tower exceeded all other lookouts, again, in number of hours of observation listed in the data. However, the total Broad-wings counted there was only 607. The largest day's count there was 237; in 1959 there were eight days with higher counts. The explanation given for the good year on the Mendota Fire Tower Knob in 1959 was that the Broad-wing migration that year was largely westward through our territory. This fall (1960) the flight was more southward. The number of Broad-wings taking a course far to the east of the Mendota Fire Tower was relatively small, and so the flight was poor along the Clinch Ridge. Nevertheless, the data from any lookout becomes more significant as the number of hours of observation increases and we intend to continue accumulating experience at the Mendota Fire Tower lookout.

The movement of air masses across North America was quite different in the fall of 1960 from the pattern in 1959. In 1960 stationary fronts, or slow moving fronts, were prevalent during the Broad-wing migration. In contrast, the fronts during the 1959 season swept rapidly across the continent, with a strong north-south tilt. This difference provides a test for the hypothesis advanced last year to explain the large flow of Broad-wings westward through the eastern part of our Hawk Project area. According to this the Broad-wings made rapid progress southwest with the fronts, and large numbers then traveled west along the Clinch Ridge. This would account for the heavy early migration, the large numbers in the eastern part of our territory, and the fact that the Broad-wing count was low at all lookouts north of our territory. In 1960, the Broad-wings utilized the updrafts generated at these lookouts because the fronts were not available for rapid transit in terms of our hypothesis. Hawk Mountain, Pennsylvania, for instance, had one of its best migrations in spite of the fact that the winds were not favorable. Our migration started at least a week later

this year than last year and it was light in the eastern part of our territory. Although fluctuations in the migration are brought about by other factors also, the effect of air-mass movements seems to be very definite.

Our territory is well located for elucidation of the factors that determine the fluctuations in the Broad-wing migration. As years have passed, we have learned the best locations for making counts. The present level of participation provides enough data for testing hypotheses as the one outlined above. More data, however, would be welcome. There is no aspect of bird study more interesting and enjoyable than the hawk count. Eventually, however, we should be able to show how fluctuations in the hawk migrations are related to similar features of the fall migration determined by other studies made by the Tennessee Ornithological Society.

TABLE I
TOTAL HAWK COUNT BY SPECIES

	Average 1951-58	1959	1960
Broad-winged	2,451	10,998	10,135
Sharp-shinned	63	38	10
Red-tailed	49	124	29
Coopers	60	78	40
Marsh	17	16	13
Kestrel	13	16	19
Osprey	9	24	15
Red-shouldered	8	23	9
Peregrine	4	6	1
Bald Eagle	2	6	2
Merlin	⅝	....	....
Golden Eagle	⅛	3	....

NOTES

All reports received by the T. O. S. Hawk Project are filed for future reference, and details are available for anyone interested, for example, in making an overall study some time in the future. Moreover, these details are valuable for the interpretation attempted every year in the annual report in addition to helping the coordinator comprehend local conditions. The following paragraphs are numbered to correspond with the first column of Table 2.

1. On September 10, a party led by Raymond Finucane to the Mendota Fire Tower, and Holmes Ralston who was already at the lookout, logged the first Broad-wings (2) in the 1960 data.

3. Fred Behrend reported heavy clouds in all directions, which he suggested might be related to conditions connected with Hurricane Donna. He also reported a heavy aircraft traffic over the Holston Mountain, probably fleeing for protection from Donna.

4. Two Ravens were seen in addition to the 16 hawks.

9. The 15 unidentified hawks were probably Broad-wings; they were all in one flight.

10. Ed Gift, Pete Smith and his boys arrived as a consequence of interest generated by Adele West's contribution on hawks in the TENNESSEE CONSERVATIONIST. They are members of the Kingsport Chapter.

12. Trenton, Georgia, is 15 miles southwest of Chattanooga.

13. At 12:20, we saw the first group of eight soaring two by two directly over the ridge. Three or four minutes later the second group appeared at the end of the ridge (the tower is on top of a high, rocky ledge at the end of the ridge); they soared in circles, each circle larger, going higher and higher until above one layer of thin clouds; there they proceeded south again as had the smaller group. The second group circled around for several minutes, and we had lots of time to study them with our binoculars. The lighting was so poor that we could not see any colors, but their silhouettes were perfect against the gray sky.

18. This is the first of three reports from Mrs. James C. Robinson, now a T. O. S. member, residing in Brownsboro, Alabama. The reports are characterized by careful and complete description, including diagrams of the terrain and flight paths.

20. This report, also with a diagram, covers the observations at the Mendota Fire Tower the day before the appearance of a very large kettle of Broad-wings in Kingsport. Mrs. Switzer commented as follows: "Before noon the hawks flew parallel to the ridge. After 1:00 p. m. they flew north to south across the ridge. We did not notice any change of wind. All day the hawks and vultures had difficulty gaining altitude. By two o'clock there was a very heavy haze along the opposite ridge across the valley on the north side. Observation became difficult."

21. This report of September 24 with only 14 Broad-wings, in spite of practically perfect weather conditions, defines the front boundary of the huge mass seen on the day after on Elder Mountain. Elder Mountain itself had only 17 Broad-wings in four hours the same day. The Brownsboro report of the day before, September 23, 87 Broad-wings, was the largest number listed for Alabama in the fall of 1960 (AUDUBON FIELD NOTES, February 1961, p. 48).

26. Mr. Coffey reported that the hawks came in on the eastern side of the range and flew southwest over the High Knob Tower, sometimes called Flint Rock or Holston Tower, in the general direction of Elizabethton. From our station, we could see High Knob and the hawks moving along the mountain towards the tower.

The hawks came to us from the northeast and flew through Shady Valley far below our post. When they arrived even with the tower they seemed to meet a calm and would soar in circles and even flap their wings until they gained an altitude of about 80 to 100 ft. above the tower. At this point, they would resume their glide and drop swiftly away towards the High Knob Tower.

27. Holmes Ralston made the following comment: "The highlight of the otherwise rather slow day was a flight of 43 Broad-wings. I spotted them in a kettle as specks on the horizon very shortly after 10:30 a. m. Some flew as low as tower level."

28. Eight observers from the Chattanooga chapter witnessed a day to remember on Sunday, September 25, at the Elder Mountain fire tower. Participants were Mr. and Mrs. Hugh Crownover, Leo Acuff, Mrs. Naomi Banks, Miss Gladys Conner, Mr. and Mrs. H. L. Sliger, and daughter, Ginger. J. E. Lawson of the state forestry division was present as usual to assist in the count.

During the morning only 9 Broad-wings put in an appearance. "The sky seemed to burst open at 1:30 with Broad-wings boiling out of the clouds, 1,000 ft. in front of the tower and passing on the west side." 800

HAWK OBSERVATIONS FALL OF 1960

No.	Date	Ob.	h	Lookout	Alt.	Wind		F	Sky	Shrp	Coop	Rdtl	Rdsh	Brdw	Mrsh	Ospr	Kstr	Eagl	Oth
1	9/10	F	5	Mendota FT	3000	10	ESE	..	FR	....	4	2	1	2	....	....	....	....	3
2	11	W	3	Montlake	1850	3-8	NW	7-8	FR	....	....	....	....	.....	....	....	....	....	....
3	11	B	7	Holston Mt.	4140	5-12	NE	6-7	PC	....	....	2	....	13	1	....	....	....	1
4	11	F	5	Mendota FT	3000	10	E	..	SC	1	....	....	....	15	....	....	....	....	....
5	12	F	4	Mendota FT	3000	10-15	NNW	7	Cr	....	3	....	....	9	....	2	1	....	....
6	13	Se	1	Walnut Mt.	3500	5-8	NE	6	CH	....	....	....	....	46	....	....	....	....	....
7	14	S	4	Mendota FT	3000	5	E	6-8	SC	....	....	....	....	207	....	....	....	....	....
8	16	Sw	4	Mendota FT	3000		GP	..	PO	....	....	1	....	30	....	1	....	....	....
9	17	R	4	Gate Cy FT		0-40	SW	5-6	BC	....	3	2	3	70	....	4	1	....	15
10	17	o	7	Mendota	3000	20-30	SW	..	SC	1	2	1	....	165	....	....	....	....	....
11	18	W	7	DeSoto FT	1600	0-3	NNE	7	CO	....	....	....	....	50	....	....	....	....	2
12	18	Sl.	6	Trenton	1600	5	NE	..	BC	....	....	....	....	156	....	....	....	....	2
13	18	Da	3	Hi Pt. FT	2391	3-5	NW	7-8		....	....	1	....	30	....	....	....	....	....
14	18	Sm	3	Mendota FT	3000	0		7-8	O	....	....	....	....	3	....	....	....	....	....
15	19	D	3	Rogrsvl FT	3000	20	SE	7	Cr	....	4	3	....	13	....	1	1	....	....
16	20	L		Elder Mt.	1880	....		9		....	....	....	....	20	....	....	....	....	....
17	22	RW	7	Elder Mt.	1880	0-5	ES	6-8	Cr.	....	....	1	....	100	3	....	1	....	4
18	22	Rb	3	Brownsboro	765	5-12	SE	8	SC	....	....	....	....	50	2	....	....	....	2
19	23	Rb	3	Brownsboro	765	5-12	SE	8	Cr.	....	....	....	....	87	....	....	....	....	1
20	23	Sw	4	Mendota FT	3000	5	SW	7	O	2	....	....	....	50	....	....	....	....	....

21	24	Rb	8	Brownsboro		10-15	NW	8	Cr	....	....	1	....	14	....	....	1	....	..
22	24	W	4	Elder Mt.	1880	3-8	SE-E	6-8	Cr	....	....	....	....	17	....	....	....	1	8
23	24	D	6	Camp Creek	4000	25-30	S	5	Cr	3	3	2	....	75	....	....	....	....	3
24	24	F	7	Chim. Top	3000	15	E	7-8	Cr	....	1	1	....	650	....	....	....	....	8
25	24	S	..	Kingsport	1000	....		..	Cr.	....	....	....	....	124	....	....	....	....	..
26	24	VC	4	McQueen FT	3885	15-20	SE	5	Cr.	....	1	....	....	44	....	....	1	....	....
27	24	HR	6	Mendota FT	3000	0-10	S	w	Cr.	....	....	1	1	69	....	....	....	....	3
28	25	Cr	7	Elder Mt.	1880	....	E	7-8	SC	....	....	....	....	4,985	....	....	....	....	....
29	25	W	5	Daisy	1850	5-10	ENE	7-8	SC	....	....	....	....	463	....	....	....	....	....
30	25	P	12	Knox	1000	5-15	NNE	..	F	....	1	....	1	92	....	....	2	....	....
31	25	O	2	Dry Gap	1150	5-15	NE	7	Cr	....	....	1	1	639	....	....	P	....	1
32	25	D	2	Rogrsvl. FT	3000	20-29	SE	5-6	Cr.	....	....	1	....	229	....	....	....	....	..
33	25	RM	5	Holston FT		15-20	WSW	5	Ch	....	2	....	....	9	....	....	....	....	1
34	25	F	7	Mendota FT	3000	30	SE	6-7	Cr.	....	....	....	....	50	....	3	....	....	6
35	26	M	6	Mendota FT	3000	....	Strong	6	Cr	1	3	....	1	237	....	2	....	....	1
36	10/1	J	7	Bon Air				..		....	2	3	....	8	1	....	1	1	1
37	1	Cr	4	Brainrd		7	E	7-8	SC	....	....	....	....	9	....	1	....	....	5
38	1	W	4	Elder Mt.	1880	0		..	Cr.	....	2	....	....	415	1	....	....	....	4
39	1	Ba		Collegedale				..		....	....	....	....	125	....	....	....	....	....
40	1	88	3	Mendota FT	3000	0		6-7	TO	1	6	....	....	7	....	1	....	....	1
41	2	J	4	Bon Air				..		....	1	5	....	47	3	....	1	....	3
42	2	TS		Near Chatt.	1660	....		..		....	....	....	....	100	....	....	....	....	....
43	2	LC	5	Elder Mt.	1880	....	WSW	7	Cr.	..	....	....	1	387	....	....	5	....	3
44	3	L		Elder Mt.		....		..		....	....	....	....	37	....	....	....	....	....
45	4	L	4	Elder Mt.		....		..		....	....	....	....	151	....	....	....	....	....
46	5	DM	..	Sevier Co.		....		..		....	....	....	....	5	....	....	4	....	1
47	9	FG	..	Cosby CG		....		7-8	Cr.	1	1	1	....	31	....	....	....	....	....
48	15	F	2	Mendota FT	3000	....		..		....	1	..	....	.....	2	....	....	....	....
	TOTALS		197							10	40	29	9	10,135	13	15	19	2B	79

P=Peregrine Falcon.

swirling, circling hawks were counted as they filled the immediate area. For the next half hour birds came in smaller groups. Then the climax came at 2:30 to 3:30 when 2,550 were tallied for this single hour. First an estimated 1,000 appeared; then at 2 minute intervals they continued to come until everyone was tired of craning his neck and the counting. After a brief respite of 15 minutes 50 more birds soared by followed by four that came in directly over the tower.

31. On September 25, I first caught sight of 35 Broad-wings about 9:20 a. m. right at Dry Gap in Beaver Ridge (near Knoxville). These birds were swirling down from a fairly high elevation and soaring in a huge circle. After circling four or five times, they resumed the original elevation and continued down the ridge. Each of the big swirls had 35 to 50 birds in it with stragglers in between. The birds in the swirls I counted in fives and the stragglers individually. Some of the birds were so high that they were almost indiscernible without binoculars. Most of them, however, went into a swirl right at the gap. The light was very good and against the deep blue sky they were beautiful. The last of the Broad-wings came through just before 10 o'clock. I was in the vicinity for another hour and kept looking, but caught sight of no more Broad-wings.

While I was watching the stream of Broad-wings, I sighted the Peregrine Falcon flying quite a bit lower, but in the same general direction but veering off when it got even with the gap. It circled and soared in a different altitude before streaking off.

38, 39, 42, 43, 44, 45 show very substantial flights of Broad-wings through the Chattanooga area in early October. The Chattanooga members deserve congratulations for their outstanding contribution to the 1960 Hawk Project. We appreciate the cooperation of Mr. Lawson with the T. O. S.

SKY CODE

Sky conditions in the language of the reports were as follows: Ch—Changing; CO—Cloudy to overcast; Cr. Clear; Fr—Fog and rain; BC—Broken clouds; O—Overcast; PC—Partly cloudy; PO—Partly overcast; F—Fair; SC—Scattered clouds; TO—Thinly overcast.

See THE MIGRANT 31, 10, 1960 for
BEAUFORT WIND SCALE AND TEMPERATURE CODE

KEY TO REPORTERS

F—Finucane, Kingsport; W—West, Chattanooga; B—Behrend, Elizabethton; Se—Senter; S—Arthur Smith, Kingsport; Sw—Switzer, Kingsport; R—Ruth, Kingsport; o—see note; Sl—Sliger, Chattanooga; Da—Mrs. Ralph M. Davidson and 3 students, Collegedale; Sm—J. W. Smith, Kingsport; D—Darnell, Greeneville; L—Lawson, Chattanooga; RW—Comstock and West, Chattanooga; Rb—Robinson, Brownsboro, Ala.; VC—Coffey and van Gelder, Bristol; HR—Rev. Holmes Ralston, Bristol; Cr—Crownover, Chattanooga; P—Pardue, Knoxville; O—Overton, Knoxville; RM—Roby May, Elizabethton; M—Charlotte Finucane & boys; Ba—Ben Basham, Collegedale; 88—Cub Pack 88; J—Riggs, Castles, Bishop, Nashville; TS—Barr, Chattanooga; DM—Dorothy MacLean, Gatlinburg; FG—T. O. S. Fall Get-together, sponsored by the Greenville Chapter.

THE 1961 SPRING FIELD DAYS

By TOS Members

An all time high species count of 210 was attained, marking the first time in the history of TOS that the species list had exceeded 200. Nine of our ten chapter areas were covered and the state meeting at Reelfoot Lake, which covered a two day period. A slight innovation was instituted by some chapters for the first time, which was the beginning of the count in the afternoon of one day and discontinuing at the same hour the following day. This proved particularly advantageous to small chapters permitting more thorough coverage and affording a better opportunity to locate nocturnal species. This feature coupled with an extremely late and cool spring contributed to the high count. Also better planned area coverage and more, better trained observers also paid off in increased numbers of species.

Five species made their debut on this spring count. They were Canvasback, Pigeon Hawk, Sanderling, Caspian Tern and Red-cockaded Woodpecker. Fourteen species were represented by a single individual. Nineteen other species were reported from only one location. However, fifty-three species were reported from all ten areas. The warbler count of 37 exceeded all others by one. During the past 15 years the least number of warbler species was 31 in 1950, while 32 species have been listed 6 times. Only 37 additional species, not occurring on this year's list, have been recorded since 1946. All but four of these have been listed since 1955. All but five species occur in the annotated list beginning with Gavids through Tyrannids. The five exceptions were Icterids or Fringillids.

Most reports contained little more than the species list and numbers therefore chapter comments are being omitted. In the table of species the counts are listed, as usual, from west to east. Numbers of individuals are given for all counts, except the State Meeting at Reelfoot Lake where some species are indicated by "C" for common, "Vc" very common, "Fc" fairly common and "Ab" abundant.

TABULAR RECORD OF SPRING FIELD DAYS

SPECIES	Memphis 4-30	Reelfoot 5-6 & 7	Nashville 4-29	Cookeville 4-22 & 23	Chattanooga 4-30	Knoxville 4-30	Greeneville 4-30	Kingsport 5-13	Bristol 4-29 & 30	Elizabethton 4-29 & 30
Common Loon	.....	.....	1	.....	1	.....	.....	.....	.....	2
Horned Grebe	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Pied-billed Grebe	.....	2	1	.....	.....	.....	.....	.....	.....	.....
Dbl-cr. Cormorant	.....	16	.....	.....	.....	.....	.....	.....	.....	.....
Gt. Blue Heron	.....	30	1	.....	.....	1	1	1	.....	6
Green Heron	1	10	17	1	8	17	4	1	4	.....
Little Blue Heron	.....	10	.....	1	.....	.....	.....	.....	1	.....
Common Egret	.....	40	.....	.....	.....	.....	.....	.....	.....	.....
Blk.-cr. Night Heron	.....	.....	44	.....	.....	.....	.....	.....	.....	.....
Yel.-cr. Night Heron	.....	3	2	.....	1	.....	1	.....	.....	1

Least Bittern		1								
American Bittern		3	1		1					
Canada Goose							11			
Blue Goose							2			
Mallard			2				5		1	3
Black Duck					5					
Gadwall		1								
Blue-wng. Teal		35	20		14	2	17			10
Amer. Widgeon										3
Shoveller							1			
Wood Duck		16	11			11	4	3		12
Ring-nk. Duck										5
Canvasback								2		
Lesser Scaup		12	30							
Hooded Merganser		2	1							2
Common Merganser				2						
Red-br. Merganser		1								10
Turkey Vulture	4	4	33	7	2	20	8	14	37	26
Black Vulture	2	5	11		2	1		2	1	
Miss. Kite	1	3								
Sharp-sh. Hawk			2			2				
Cooper's Hawk		1	3	2		4	3			
Red-tailed Hawk		3	15	1	3	1	3			1
Red-sh. Hawk		1	4	2	7			1		1
Broad-winged Hawk	1		3	2		5			1	2
Marsh Hawk							1			1
Osprey		4	1		2				2	6
Peregrine Falcon		1								
Pigeon Hawk		1								
Sparrow Hawk			16	7	4	6	2	5	15	6
Ruffed Grouse							1			2
Bobwhite	16	20	35	15	20	47	8	14	22	12
Ring-nk. Pheasant										1
King Rail						2				
Virginia Rail					1	1				
Sora Rail		5			2	1	1			1
Amer. Coot		75	37	2	11		2			1
Semipal. Plover		23	2			5				
Killdeer		18	36	7	9	45	12	13	7	9
Amer. Woodcock			4							1
Common Snipe			4	2	11	23	3			2
Spot. Sandpiper		28	26	1	11	28	8	6	8	18
Sol. Sandpiper		22	17		21	24	8	3		15
Gr. Yellowlegs		5	3		4	6		4		
Lsr. Yellowlegs		60	26		49	10	7	2	15	18
Pect. Sandpiper		45	2		4	19				
Least Sandpiper		22	3		4		3	1		1
Sanderling									1	
Herring Gull		1	5		1					
Ring-bld. Gull		18	34					7		13
Laughing Gull		1								

Forster's Tern	.....	16	.....	.....	.....	.....	.....	.....	.....	.....
Least Tern	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Caspian Tern	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Black Tern	.....	38	1	.....	.....	.....	.....	.....	.....	.....
Rock Dove	.....	.....	.....	.....	33	35	10	.....	111	.....
Mourning Dove	7	Fc.	131	99	173	323	36	33	185	36
Yel.-billed Cuckoo	1	16	5	2	10	36	1	14	.....	2
Blk.-billed Cuckoo	.....	1	.....	.....	.....	3	3	.....	.....	2
Barn Owl	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
Screech Owl	1	1	1	1	5	4	.....	1	.....	.....
Grt. Horned Owl	.....	1	2	.....	.....	.....	2	1	.....	.....
Barred Owl	.....	6	6	.....	.....	1	.....	.....	.....	1
Chuck-will-wid.	.....	.....	29	2	8	11	1	1	1	.....
Whip-poor-will	.....	.....	49	.....	2	4	33	1	1	25
Com. Nighthawk	3	12	19	.....	.....	4	.....	23	5	1
Chimney Swift	3	C.	275	37	209	388	552	275	117	146
R.-t. Hummingbird	6	21	26	6	8	33	5	8	6	1
Belted Kingfisher	.....	5	15	.....	2	7	4	3	3	10
Flicker	3	5	22	23	34	47	16	18	84	50
Pil. Woodpecker	3	5	25	10	2	23	12	4	1	11
Red-bel. Woodpecker	15	20	74	15	21	23	14	7	7	3
Red-hd. Woodpecker	15	5	9	3	23	20	8	5	6	1
Yel.-bel. Sapsucker	.....	1	1	.....	.....	4	.....	.....	.....	.....
Hairy Woodpecker	4	5	8	.....	2	4	.....	2	3	4
Downy Woodpecker	8	14	57	17	14	39	20	11	69	15
Red-cocka. Woodpecker	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
Eastern Kingbird	3	Vc.	37	3	21	15	11	18	9	17
Grt.-cr. Flycatcher	31	25	30	3	23	36	29	20	1	3
E. Phoebe	.....	3	37	4	6	22	17	7	7	22
Yel.-bel. Flycatcher	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Acadian Flycatcher	4	Fc.	16	.....	.....	11	.....	5	1	3
Least Flycatcher	.....	3	1	.....	2	1	.....	.....	2	19
Wood Pewee	30	Fc.	23	1	15	3	9	12	4	3
Horned Lark	.....	20	5	4	.....	14	6	10	2	3
Tree Swallow	.....	Ab.	15	.....	31	26	16	.....	8	24
Bank Swallow	.....	110	19	.....	1	17	.....	.....	.....	.....
R.-winged Swallow	2	Fc.	46	.....	16	78	10	17	46	33
Barn Swallow	.....	C.	195	13	94	80	25	22	82	61
Cliff Swallow	.....	17	46	.....	88	20	.....	.....	13	12
Purple Martin	2	Fc.	10	4	60	154	32	18	3	18
Blue Jay	24	20	143	78	203	292	51	108	277	106
Com. Raven	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Com. Crow	11	C.	120	92	72	262	33	45	130	109
Fish Crow	12	16	.....	.....	.....	.....	.....	.....	.....	.....
Car. Chickadee	25	Fc.	95	28	28	143	25	21	64	30
Tuft. Titmouse	30	Fc.	130	52	87	152	34	34	100	33
Wht.-br. Nuthatch	2	7	8	9	17	1	4	.....	16	3
Red-br. Nuthatch	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
Brown Creeper	.....	.....	.....	3	.....	.....	.....	.....	1	.....
House Wren	.....	1	3	9	1	7	10	10	32	6
Winter Wren	.....	.....	1	.....	.....	.....	.....	1	.....	2
Bewick's Wren	1	.....	11	8	2	1	5	.....	1	1

Carolina Wren	19	Fc.	32	4	32	117	20	28	25	40
Long-b. Marsh Wren	.....	2	.....	.....	.....	2	4	.....	.....	1
Short-b. Marsh Wren	.....	2	.....	.....	.....	.....	1	.....	.....	.....
Mockingbird	6	20	105	35	93	190	28	33	107	52
Catbird	7	C.	41	12	63	72	34	12	51	44
Brown Thrasher	7	15	38	47	50	95	35	27	109	54
Robin	9	14	111	37	111	287	48	36	179	157
Wood Thrush	8	24	24	6	78	100	10	30	43	41
Hermit Thrush	.....	.....	2	.....	.....	.....	.....	.....	.....	1
Swainson's Thrush	14	C.	61	.....	20	10	.....	4	2	.....
Gray-Chk. Thrush	10	Fc.	8	.....	.....	2	.....	.....	1	.....
Veery	3	20	9	.....	3	3	.....	.....	.....	3
Eastern Bluebird	5	10	46	26	18	17	7	.....	4	13
B.-gr. Gnatcatcher	20	C.	137	8	22	71	38	14	3	31
Gold-cr. Kinglet	.....	.....	1	.....	.....	.....	.....	.....	.....	2
Ruby-cr. Kinglet	.....	3	10	2	6	9	.....	.....	3	4
Water Pipit	.....	.....	.....	.....	.....	11	.....	.....	.....	.....
Cedar Waxwing	15	Ab.	108	2	27	142	.....	.....	28	35
Shrike	1	20	36	3	7	20	4	.....	1	2
Starling	11	Fc.	500	60	433	1,554	94	50	505	314
Wht.-eyed Vireo	30	Fc.	72	3	21	65	7	18	7	25
Yel.-thro. Vireo	1	20	17	6	7	28	.....	.....	.....	6
Solitary Vireo	.....	5	2	.....	2	6	.....	.....	.....	8
Red-eyed Vireo	35	C.	109	10	156	151	15	37	.....	24
Phil. Vireo	.....	2	2	.....	1	1	.....	.....	.....	.....
Warbling Vireo	.....	Fc.	12	.....	1	4	5	2	1	2
B. & W. Warbler	1	22	26	11	35	55	.....	30	7	27
Prothonotary Warbler	18	Fc.	55	1	1	6	.....	.....	.....	.....
Swainson's Warbler	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Worm-eating Warbler	.....	1	8	.....	2	9	1	16	2	6
Golden-wng. Warbler	1	2	1	.....	7	14	.....	.....	1	3
Blue-wing. Warbler	.....	2	23	.....	4	8	.....	.....	1	.....
Tenn. Warbler	26	C.	36	.....	2	27	.....	11	1	.....
Orange-cr. Warbler	.....	2	1	2	.....	1	.....	.....	.....	.....
Nashville Warbler	4	12	23	.....	.....	12	1	.....	.....	.....
Parula Warbler	4	Fc.	5	.....	.....	7	.....	10	.....	11
Yellow Warbler	.....	Fc.	27	15	37	101	31	23	21	74
Magnolia Warbler	3	Fc.	6	.....	11	21	.....	5	4	.....
Cape May Warbler	.....	18	7	1	6	6	.....	1	1	2
Blk.-thr. Blue Warbler	.....	.....	4	.....	1	3	.....	.....	.....	16
Myrtle Warbler	18	C.	431	18	155	232	37	2	23	37
Blk. thr. Gr. Warbler	6	Fc.	36	.....	11	47	2	10	1	17
Cerulean Warbler	13	15	30	.....	2	31	.....	24	.....	.....
Blackb. Warbler	1	32	9	.....	22	30	.....	6	.....	1
Yel.-thr. Warbler	1	20	23	3	9	9	.....	9	.....	.....
Chestnut-sided Warbler	5	25	11	.....	26	37	.....	3	.....	7
Bay-br. Warbler	1	28	4	.....	7	19	.....	30	.....	1
Blackpoll Warbler	1	Vc.	11	.....	4	5	1	17	.....	.....
Pine Warbler	.....	.....	3	.....	7	9	.....	5	.....	3
Prairie Warbler	.....	6	22	1	4	48	.....	15	.....	10
Palm Warbler	.....	Fc.	96	1	51	14	2	.....	1	1
Ovenbird	2	18	17	.....	31	17	12	22	1	45

No. Waterthrush	1	20	3	.....	1	7	.....	.....	.....	2
La. Waterthrush	4	12	39	.....	9	2	4	4	2	9
Ky. Warbler	14	12	33	.....	5	25	.....	10	1	4
Conn. Warbler	....	1	.....	.....	.....	.....	.....	.....	.....	.....
Mourning Warbler	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Yellowthroat	13	C.	61	9	19	63	40	18	4	52
Yel.-br. Chat.	20	Fc.	60	3	30	69	27	42	10	39
Hooded Warbler	6	4	20	2	6	15	1	18	1	15
Wilson's Warbler	.....	3	1	.....	.....	.....	.....	2	.....	.....
Canada Warbler	.....	5	.....	.....	1	1	.....	5	.....	.....
Am. Redstart	8	C.	13	.....	.....	16	2	8	3	14
House Sparrow	10	C.	76	35	98	180	58	70	333	156
Bobolink	.....	450	12	.....	36	5	.....	.....	6	8
Eastern Meadowlark	1	Fc.	213	76	164	263	110	66	111	116
Redw. Blackbird	30	Ab.	135	17	80	234	51	52	45	175
Orchard Oriole	3	Fc.	74	6	11	54	21	15	20	16
Baltimore Oriole	16	C.	12	1	10	25	.....	6	13	13
Rusty Blackbird	.....	.....	.....	.....	2	1	.....	.....	.....	.....
Com. Grackle	23	Vc.	400	100	131	519	41	105	1,461	249
Brown-h. Cowbird	120	Fc.	108	23	96	93	28	36	11	51
Scarlet Tanager	8	45	19	11	34	35	3	24	4	18
Summer Tanager	21	Fc.	59	16	20	48	24	29	12	5
Cardinal	50	Fc.	260	80	130	438	58	65	209	123
Rose-br. Grosbeak	4	Fc.	40	6	45	32	2	8	5	35
Blue Grosbeak	.....	.....	4	1	10	6	.....	.....	.....	.....
Indigo Bunting	42	Ab.	155	27	119	202	40	80	41	47
Dickcissel	1	Ab.	15	.....	.....	4	.....	.....	.....	.....
Purple Finch							1			
Pine Siskin	.....	.....	.....	.....	.....	.....	.....	.....	.....	158
Amer. Goldfinch	10	Fc.	189	135	120	158	67	15	65	205
Rufous-sided Towhee	8	7	94	50	117	194	47	59	78	113
Savannah Sparrow	.....	Fc.	27	.....	30	22	4	.....	9	4
Grasshopper Sparrow	.....	1	6	.....	10	8	9	30	2	13
Vesper Sparrow	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Bachman's Sparrow	.....	1	.....	.....	.....	1	.....	2	1	.....
Slate-col. Junco	.....	.....	.....	38	1	.....	7	.....	3	1
Carolina Junco	.....	.....	.....	.....	.....	.....	.....	.....	....	69
Tree Sparrow	.....	.....	.....	5	.....	.....	.....	.....	5	.....
Chipping Sparrow	3	11	64	20	31	50	35	12	34	66
Field Sparrow	2	Fc.	65	18	63	112	34	41	35	49
White-cr. Sparrow	.....	40	13	15	2	19	34	.....	17	21
White-thr. Sparrow	22	Fc.	160	67	196	301	51	.....	181	67
Lincoln's Sparrow	.....	25	2	.....	.....	.....	.....	.....	2	.....
Swamp Sparrow	.....	15	14	4	2	11	3	.....	4	12
Song Sparrow	.....	6	11	1	37	159	36	58	70	123
TOTAL SPECIES	89	160	159	103	135	146	101	106	109	139
Total Individuals	1,017	1,962	7,056	1,807	4,766	9,723	2,402	2,246	5,374	4,090

GRAND TOTAL SPECIES 210

T. O. S. ANNUAL MEETING, 1961

Under stormy skies, members of T. O. S. began to arrive at Reelfoot Lake on Thursday evening and Friday, May 4 and 5, 1961. The Ben Coffeys had come from Memphis several days previously to welcome the early arrivals. On Friday evening, with cheering warmth, Lula and Ben Coffey held open house for an overflowing group of birders in their cottage at Edgewater Beach.

On Saturday morning and afternoon, May 6, the members divided into several sections and fanned out in all directions for complete coverage of this wonderful area. Trips were made by car to the heronry near Dyersburg and to different sections along the Mississippi River. Various other groups participated in "car walks" around Reelfoot Lake. The trip to Cranetown was cancelled because the heronry had become inactive. It was thought the possible reason for this was that the birds had been disturbed by the filming of a movie in this vicinity.

Also, on Saturday afternoon at 2 p. m., the Board of Directors met at the Biological Station at Walnut Log to transact the business of the Society. This area furnished much delightful birding to those not attending the Board Meeting. The Memphis Chapter had arranged for boats to be used by the members.

At 7 o'clock Saturday evening, the annual banquet dinner was held at Boyettes' dining room. After the banquet, the members moved to the American Legion Clubhouse for the annual business meeting and program. The President, Mr. Paul Pardue, presided at the regular business meeting of the Society and presented the recommendations from the Board for the approval of the membership. All recommendations were approved. The slate of officers for 1961-1962 is as follows:

President ..... Ed King
Vice-President, East Tenn. ..... Kenneth Dubke
Vice-President, Middle Tenn. ..... Ralph Dunckel
Vice-President, West Tenn. ..... Mrs. Rose N. Wooldridge
Secretary ..... Mrs. Ruby McWhorter
Treasurer ..... Mr. Henry Parmer
Curator ..... Mr. Albert Ganier
Editor ..... Dr. Lee R. Herndon
Directors-at-Large: East Tennessee—Mrs. Richard Nevius; Middle Tennessee—Mr. George Mayfield, Jr.; West Tennessee—Mr. L. D. Thompson.

As our speaker for the evening, the Society was treated to the wit and wisdom of the dynamic Dr. Gordon Wilson as he took us along the travels of Alexander Wilson for whom the Wilson Ornithological Society was named. He tarried along Wilson's route to refresh us with many of the incidents of Civil War History. We shall long remember that we were cautioned "before we face another person" to make sure we had visited Cheek's Tavern. Dr. Wilson's message to us was both delightfully interesting as well as extremely informative. The Society then enjoyed a fine film of the Fish and Game Commission, shown by Mr. Richardson, on "Reelfoot Lake."

The final count of the birds was taken on Sunday morning at 11 o'clock at the shelter at Edgewater Beach. The compiler was Ben Coffey. The total count was 162 species. The 1958 count was 154 species.

Despite the unrelenting inclement weather, everyone enjoyed good birding, good food, good fellowship. We are deeply grateful to our hosts, the Memphis Chapter, serving as an arrangements committee, *in toto,* under the capable supervision of Chairman Mary Davant, for a truly wonderful meeting.

The President of the Nashville Chapter, Mr. Henry Parmer, invited T. O. S. to come to Middle Tennessee for the 1962 annual meeting with the Nashville Chapter as hosts.

MRS. H. C. GARLINGHOUSE, Secretary, 2012 Cedar Lane, Fountain City.

ROUND TABLE NOTES

CATTLE EGRET—FIRST TENNESSEE RECORD. — On Friday, May 5, 1961, at 4:00 p. m. a friend, Mrs. R. G. Crossno, came to get me to go identify a bird she was not able to identify. At the time we were looking at the bird I did not think it could possibly be anything but a Cattle Egret *(Bubulcus ibis)* just from its behavior. It was in a field with cattle and stayed at the feet of one cow constantly. It was smaller than any egret or heron I'd ever seen but had buffy crown feathers, long buffy feathers on its breast and along its back. On checking all my bird books I discovered that they are all too old to contain even a mention of the Cattle Egret. Then I remembered that I had a borrowed book that was quite new, "Living Birds of the World" by E. Thomas Gilliard, and in it I found a picture of a Cattle Heron on a nest — its bill was light and the buffy crown feathers were distinctive. Of course, most of the Knoxville TOS members were spending the weekend at Reelfoot Lake. On Saturday afternoon I was able to take Mr. Gordon Hall, formerly fish and game man with U. S. Engineers in Jacksonville, Florida, out to see the bird. He assured me that the buffy feathers were distinctive of the Cattle Egret. The bird remained in the same field all day Saturday, May 6, but could not be found on Sunday, May 7. This morning, May 8, Mr. J. B. Owen called me by long distance telephone and assured me that my description was perfect for the Cattle Egret — he has Peterson's Guide of Texas Birds which carried a detailed description.

The Cattle Egret was on a farm owned by Mr. S. C. Crosby in Anderson County, Tenn.

MRS. EARL F. OLSON, Box 390, Norris, Tenn.

WHITE-FRONTED GOOSE AT COVE LAKE. — On Sunday, March 19 there were only 29 geese remaining at Cove Lake where a high count of 163 had been made earlier in the season. On this date as I sat in the car in the roadside park, I watched 28 geese rise in flight, circle the lake then disappear over the ridge to the north.

One Canada Goose had an injured wing and it was left in mid-lake swimming in an ever increasing circle with its head and neck level with the water. For some minutes I watched it, then my attention was diverted elsewhere and when I returned to look at the goose, it had disappeared. I walked slowly along the bank near where I had last seen it and discovered it out on the bank behind a shrub. My coming alarmed it into returning to the water where it swam over to a point of land opposite my parked car. It went directly to the base of a tree and sat down, where it stayed for two hours.

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At the end of two hours the 28 geese which had flown northward returned with more honking and lit in the water between me and the point of land. As I watched them walk out of the water onto the point of land, I realized one goose had orange feet and legs. Also it was smaller than the Canadas. For some time I was afraid to take my binoculars away from this goose for fear of losing sight of it. When feeding with its head down and tail toward me only the orange feet and legs were distinctive. So I sat and studied the bird for quite a long time before I reached for my Peterson Guide and Kortright's Ducks, Geese and Swans of North America. Peterson's description — "No other goose has yellow or orange feet", convinced me that I was looking at a White-fronted Goose *(Anser albifrons)*. Pictures in Peterson's guide were of no help. Pictures in Kortright's book assured me it was an immature White-fronted Goose. I returned to Cove Lake on March 27, 29 and April 1 and the White-fronted Goose was still there, however the Canadas had dwindled to only 3 and one of those was the injured one. When I returned to Cove Lake on April 14, only the injured Canada Goose remained.

MRS. EARL F. OLSON, Box 390, Norris, Tenn.

NOTE. This appears to be the second record of the occurrence of the White-fronted Goose in Tenn. See THE MIGRANT: **16**, 10, 1945. Ed.

BOOK REVIEW

PENGUIN SUMMER. By Eleanor Rice Pettingill. Clarkson N. Potter, Inc. New York. 197 p. $5.00.

Penguin Summer reveals many interesting facts about Olin S. Pettingill and Eleanor Pettingill's five month trip to the Falkland Islands, islands east of southern Argentina, that could not be placed in a scientific work. The Disney Studio, True-Life Adventures, sponsored this ornithological excursion for a penguin series.

Mrs. Pettingill has a facility for presenting the physical hardships endured during this trip in a humorous manner. Her development of the two exciting incidents, Dr. Pettingill's breaking his arm and their being marooned by storm, was vivid, realistic, and dramatic. Although the many insignificant details about the people in the Falkland Islands, their thoughts, and words give the text realism, the movement of the story suffers in places because of this.

The reader is introduced to the habits of many birds native to the Falkland Islands, particularly the Gentoo, Rockhopper, and Jackass Penquins, by the writer's words and the many black and white photographs of these birds.

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CLIFF SWALLOW STATUS IN CHATTANOOGA AREA

By ADELE WEST

In the June 1936 MIGRANT, Albert Ganier and S. A. Weakley remarked that the normal nesting range of the Cliff Swallow lies north of Tennessee; that the birds had been looked for over a number of years without success. It was in that year that colonies were seen by them on the Cumberland river near Dover and Savannah. The relatively new association of this bird with concrete lock walls and similar structures was also noticed.

Recent discovery of the largest known colony of breeding Cliff Swallows in the Chattanooga area, and possibly the state of Tennessee, has led the writer to ponder over several questions concerning the status of this species within 30 miles of Chattanooga.

Following is a brief report of colonies in this area. The record-breaking colony, No. 10, is described last because its story is given in more detail and is rather lengthy.

1. Ben Coffey reported in the June-September 1942 MIGRANT the colony at the Market St. Bridge in Chattanooga. In 1951 he reported further that there were about 110 nests. In June 1961, 612 nests were counted, though one can never see more than a dozen birds flying in the immediate area.

2. On May 2, 1955, E. L. Boyd, Fish and Game Officer, invited me to accompany him to Hales Bar Dam (13 miles downstream of Chattanooga or 33 river miles) where we counted 386 completed nests. Toward the end of May 1961, Mr. Boyd informed me that the Hales Bar colony had not built there this year because a TVA barge was parked beside the lock walls, their nesting site.

3. Nickajack Cave—In the spring of 1960 the writer was told that swallows were flying in and out of the cave. A trip to the cave showed that both Rough-winged and Cliff Swallows were present. It was not ascertained where the Rough-wings were nesting, but a dozen or so Cliff Swallow nests were fastened to the rough rock roof of the cave. Nickajack is in Tennessee on state hwy. 156, almost at the junction of three states, Georgia, Alabama, and Tennessee. It is about 1,800 ft. north of the Alabama state line and 2,400 ft. northwest of the corner between Georgia and Alabama. Its entrance is 62 ft. high and 172 ft. wide, allowing considerable light to penetrate its large mouth. The cave is said to go back several miles, and a small stream runs through it that can be navigated by boat.

4. Gray Cliff—At the time of the above-described 1960 visit, I discussed Cliff Swallows with a fisherman who identified himself as Hoyt Pippenger, another Tennessee Fish and Game Officer. He mentioned a colony on a river cliff nearby and later wrote me a note to say there were about 140 nests on Gray Cliff, about two miles downriver from Hales Bar Dam. Since

NOV 17 1961

the 1961 count is 225 nests, this colony may have been swelled by some of the birds of Hales Bar lock.

5. N. Chickamauga creek bridge—This creek enters the Tennessee river just a few feet below the dam spillway. The well established colony here was not noticed until April 14, 1957. By May 1 TVA workmen were scraping off the nests preparatory to painting the bridge. This occurs every year or two but not on a schedule. When it does, the birds move over to the dam itself, taking advantage of suitable walls between the spillway gates.

6. South Chickamauga creek bridge—This bridge on Shallowford Rd. near the airport was constructed in 1953. Ben Basham discovered the colony in 1959 but it did not come to my attention until May 1960. When investigated on 5-15-60, about 200 nests were counted. On two return visits, destroyed nests, dead birds, and shotgun shells were found on the ground under the bridge. This is the one location where nests were presumably built over the creek bed at high water conditions and later became more accessible with the dropping of the water level.

On 6-17-61 a visit was made to this colony. The number of nests remains the same—about 200. Although most of them were over the main creek bed, a few had been built near the extreme ends of the bridge where there is now no water. A few swallows were still gathering mud to repair or replace nests that had been destroyed or collapsed.

7. In May 1961 while driving between Kingston and Chattanooga on highway 27, Gene West noticed Cliff Swallows near Dayton and Soddy. He mentioned this to me and on June 10 we made a survey along this highway from Dayton south to the edge of Chattanooga, approximately 28 miles. In the immediate area of Dayton, within 1½ miles of each other, are one old bridge on hwy. 30 at the junction of 30 and 27, three double spans (one-way travel), one single span (two-way travel), and two three-barrel concrete culverts. All except the old bridge are on new construction of the Dayton by-pass. Of these seven possible nesting sites, three were in use, but a boat is needed to make a count. All were so close together that they are considered as one.

8. We continued on, making seven more stops within approximately 26 miles at every bridge and likely culvert. One bridge on the Soddy embayment was in use, but it was not possible to count nests.

9. About one mile farther on, an arched culvert contained approximately 100 nests. With further reference to items 7 through 9, I would like to make a few comments about the sites on this highway that were not in use. Some of the reasons were obvious. The bridges, although 200 to 400 feet long, had insufficient water passing under. These streams are dry a great part of the year. We seldom find nests so located that one can stand on land under them. The unused culverts on this stretch of highway had too much shrubby growth at and near the openings which would probably make them unacceptable to Cliff Swallows.

10. Nickajack Culvert (so named because of its proximity to the cave)—Because Nickajack cave is only 5¾ miles, as the swallow flies, from Hales Bar Dam, it seemed possible that the Hales Bar colony might have joined forces with those at the cave. We, therefore, went to the cave, finding the usual small number of nests. But there were many swallows in the area and no immediate answer as to where they might be nesting.

In the pursuit of other birds known to be in the area such as the Blue Grosbeak, La. Waterthrush, and Prothonotary Warbler, Miss Gladys Conner and I walked away from the cave and along the main road, hwy. 156. Almost immediately we came upon a culvert through which runs overflow from the cave. Starting down the high steep bank to check the culvert for possible nests, we were amazed to see Cliff Swallows fly out in enormous swarms. Solid rows of nests could be seen in the angles of the culvert.

Several days later we returned with Ralph Bullard, licensed bird bander, to reconnoiter and consider the possibility of assisting him in the banding of this colony. Wearing rubber boots, Mr. Bullard walked through the culvert and counted 522 completed nests, with others under construction. It was decided to return the following weekend, June 3 and 4, and set up a mist net banding operation.

The work of June 3 resulted in about 425 bandings with a small number of "repeats." I will not go into detail here about the mud and rain of June 4, the banding of 310 swallows and handling of many repeats, except to say that 12 hours in the field on a banding operation of this type is not an experience that I am anxious to repeat.

Only two casualties resulted, both becoming skins in the collection of Southern Missionary College. One inactive Phoebe's nest was in the culvert and a bird was netted on a later date. A female Orchard Oriole and a Barn Swallow completed the catch of miscellaneous birds.

Because the catch of immature birds on June 4 was so small (about 5) and most of the nests contained eggs, we decided to return and did so three weeks later, June 25, and again on July 2. Two days' work resulted in more immatures which should be helpful next year when we try to ascertain whether the colony returns to the culvert or Hales Bar lock, or possibly to both sites. Total Cliff Swallows banded over the four day period were 873 adults and 39 immatures.

This culvert is described by the highway department as being two-barrel, 12x12x60 feet, and was constructed in 1950. Having just discovered it, we do not know whether it has been occupied by the swallows in prior years, but the number of swallows in the area in 1960 would not indicate that it was being used to any great extent, if at all. However, it has been my experience that the number of swallows flying about the vicinity of a nesting site is a poor indication of the size of a colony.

Persons who assisted Ralph Bullard in the banding operation were Leo Acuff, Benton Basham, Mr. and Mrs. Ralph Bullard, Sr., Miss Gladys Conner, Mrs. Hugh Crownover, Fred Haerich, the Nat Halverson family, Miss Mabel Norman, the John Siemens family, and the Wests.

This colony is very vulnerable to passersby, so we made a special effort to inform and interest the several people who stopped to see what we were doing, hoping our explanation that the work was for the Federal government would have a favorable effect on the future safety of the colony. It was some time before we realized that the oddity of an 8-foot stepladder standing in a field of foot-high corn was really what amazed the passersby and caused them to come to a stop. The ladder had been used in the early morning to fasten the net to poles, and then placed out of the way.

Did most of the Hales Bar colony move nearly six miles to the culvert? We believe so—although some may have joined those at Gray Cliff. It is probable that the Hales Bar site will be available to them in 1962, and they may return there. The question uppermost in our thoughts at this time is whether we will have to pursue the birds to their old location in order to retrap them and find out for sure. It will also be of interest to ascertain from the banding of immatures at Nickajack whether they will return in 1962 to the culvert or follow their parents to Hales Bar. We will let you know about this next year if we are able to get some answers.

As a by-product of the 1961 visits to Nickajack cave, the nests of the Rough-winged Swallows were discovered. They were placed in niches in the cave roof only a few inches from each entrance hole, and only a few feet from the Cliff Swallow nests. The nesting material could be seen hanging out of these holes and niches. It was apparent that the Rough-wings felt no need for placing their nests several feet behind the entrance hole as they normally do where the nests are located in stream banks and highway cuts.

Nests at Sites Where 1961 Count Could Be Made

Year	Site	No. of Nests		Increase
1955	Hales Bar Dam	385		
1960	Gray Cliff	140	522	
1961	Nickajack Culvert	522		
1961	Gray Cliff	225	747	222
1960	Shallowford Rd. Bridge	200		
1961		200		None
1951	Market St. Bridge	110		
1961		612		502

Over the years, references in THE MIGRANT to new Cliff Swallow colonies in Tennessee have been few and far between. However, the Sept. 1960 issue is full of such reports—so many, in fact, that I will not supply details.

The following informal comments in the form of a summary are based on the writer's personal opinion because the known facts are insufficient to serve as proof.

1. It is believed that the number of colonies and number of nests in the Chattanooga area (within 30 miles) are on the increase. If true, this supposition may also apply to other parts of the state, particularly in association with highway construction.
2. Displaced colonies seem to find other suitable sites in time to breed.
3. Culverts may be acceptable primarily to displaced birds.
4. Although there is an abundance of Cliff Swallows breeding in southeast Tennessee, our neighboring state of Georgia has no state breeding record. However, it seems likely that a thorough survey of concrete bridges and culverts in that portion of Georgia adjoining Tennessee would produce one or more colonies.

5511 Dayton Blvd., Chattanooga 5.

THE SEASON

MEMPHIS.—The shorebirds mentioned in our last summary, Mar. 5, were found when the Booker, Ark., reservoir was almost dry and we have had no good habitat for these birds since. A few low places in the spring yielded a small number of the common species, including Golden Plover in more nuptial plumage than usual, to Apr. 23 (58 near the Arkansas end of the Memphis bridge). We were absent, on Field Days and vacation, following that. The Blue Goose at Riverside Park remained into its second summer but the one at the Penal Farm, present thru one summer, then joined there by two immature Blues and two immature Snows last fall, apparently left with these visitors. All were seen Mar. 11, but none on the next visit, Apr. 8, or later. Transients noted near Booker were: Mar. 5, 200 Blues and 10 Snows; Mar. 11, 70 Blues, 4 Snows. My only Upland Plover record was of 7, adjacent to the Tupelo, Miss., fish hatchery, April 2. Two White-rumped Sandpipers at the Meridian, Miss. fish hatchery, June 17, constitute my only recent record of this uncommon and late transient.

Alice Smith and Katheryn Paullus saw a Mississippi Kite close overhead at Shelby Forest S. P., Apr. 9; this is 2 weeks earlier than ever. We had 4, May 7, 9 miles east of Heloise, and (T.O.S.) 3 at Reelfoot, May 6. James T. Tanner saw a Pigeon Hawk, May 6, north of Tiptonville; dark cheeks, pointed wings, falcon flight noted at about 100 feet. Jim also had an adult Laughing Gull, that date, perched and flying, 200 yards out from Cypress Point, Reelfoot. These are about our fourth West Tennessee record for either species. At the south end of the lake, May 7, were 17 Forster's Terns (JTT, BC).

Mrs. W. J. Payne at Heloise, alerted previously, reported the Bank Swallows back at the nearby river bank on Apr. 12. Over 400 were in that area, May 7 (BCs). On Apr. 9 we could find none at Ashport and Golddust. Lefty Harvey at the Norfolk Dam, Ark. power station reported Cliff Swallows arrived there about Apr. 9. Migration at Memphis about as usual (BC, Oliver Irwin, HD, et al) which is not as heavy as at Reelfoot. During our return trip from the latter, May 7, we found transient warblers common along the Mississippi at Heloise. At Memphis' Riverside Park, Mrs. Helen Dinkelspiel and Mrs. Ed Carpenter found a Mourning Warbler, May 10.

A jaunt for Whip-poor-wills into the Louisville, Meridian, and Bay Springs areas was almost nullified by poor weather. Giving up, I drove to the Zama area and slept in parked car. At 4 a. m., this June 18, I awoke and heard a Whip-poor-will at the site of the Winston County bird of June 12, 1960. It was a pleasant surprise to note the return of the species to this farthest south summer outpost, as it were. On July 1-2 I heard several Whips in and near Kamp Kia Kima, Hardy, Ark., — my first summer records at a site first visited in 1930, altho fairly common not far from there. A run from Williford to beyond Sitka, that morning, showed the species fairly common, even along a creek, where none was found in 1954 and 1958. At dusk July 1, it was more common than other seasons, from Saddle to Mammoth Spring. June 10-11, Whips were more common in the Pine Mountain, Iuka, Eastport, Miss., Allsboro, Ala., areas. The Ouachitas near Hot Springs, Ark., were a blank, June 24-25, except for one Whip, June 24, in Lonsdale, the lowest (450 ft.) and most southern point covered. Cliff

Swallows continue common but we should mention that colonies have left our first known bridge sites, the Perryville and Savannah bridges and the bridge at Linden (one season, 1960, as far as we know). Dr. W. L. Whittemore saw 4 nests, July 22, at the crane platform, Colbert Steam Plant, Ala. On this date we were surprised to see 40 (20 gathering mud) at the Roark Creek bridge, Branson, Mo., altho this may not be exceptionally late in the north. A Scarlet Tanager, June 11, in Benton County, west of Ripley, Miss., was noteworthy account the low elevation, creekside highway 4. No Blue Grosbeaks found at last year's Germantown site, July 4, but a singer was seen Aug. 5, just north, along the Penal Farm. The Dickcissel continued to be uncommon at many former sites (Penal Farm, Lakeview, for example).

BEN B. COFFEY, JR.

NASHVILLE.—When writing seasonal reports it is difficult to arrive at a decision as to when one season ends and the next begins. Trips to Bush Lake by H. E. Parmer on March 23 and 24 turned up the first Swifts and Barn and Rough-winged Swallows of the season while such winter species as Greater Scaup and Old Squaws were still present, which, in fact did not leave until April 5 and 11 respectively.

The real signs of spring were the two major waves of migration which passed through this area on April 14 and 15, and 21 to 24, resulting in the first recording for the year of 17 and 25 species respectively.

The highlights of the spring season were: A Horned Grebe at Coleman's Lake on May 22, the latest ever (Laurence O. Trabue); approximately 200 Bonaparte's Gulls on Old Hickory Lake on 4-9, was the largest number ever recorded in Middle Tennessee, (H.E.P.-J.O.); Forster's Tern on Bush Lake between 4-21 and 5-1, (H.E.P.); Swainson's Warbler at Ashland City marsh on 4-29, (J.C.O.-Albert Ganier); Brewster's Warbler on 4-27 in the Cumberland river bottoms (Alan R. Munro); Mourning Warbler on 5-9, two days earlier than ever before in Nashville, (Amelia R. Laskey); Rose-breasted Grosbeak, one 4-15, also two days earlier than ever before, (Harry C. Monk); 8 Blue Grosbeaks between 4-29 and 5-1 by 5 different observers at widely scattered localities; Indigo Bunting on 4-8, much earlier than usual, (Mr. and Mrs. R. N. Young); and Henslow's Sparrow on 5-21 near 2 J's (JCO.).

Consecutive trips to Buena Vista marsh to look for shore birds were disappointing due to the small number. Highlights of the shore bird migration were gotten elsewhere. Two Golden Plover and a Baird's Sandpiper at Bush Lake on 4-12, only the second Middle Tennessee record of the Baird's, (JCO), and an Upland Plover in the South Harpeth valley on 4-15 and 16, (Katherine Goodpasture).

But even if Buena Vista did fail as a good shore bird area, it did turn out to be a remarkably good one for marsh birds this year. Sora, American Bittern and Yellow-crowned Night Heron were recorded on nearly all trips from mid April to the second week in May, the night herons remaining much later and were suspected of breeding in the area (JCO). Also recorded was King Rails on 5-3 and Common Gallinule on 4-19. Least Bittern arrived on 5-3 and two pairs remained to nest, one nest had 5 eggs on 5-29 and the other 3 eggs on 6-26, (JCO). The young were banded by Alan Munro and Katherine Goodpasture. On 6-19 a female Blue-winged Teal with 5 young was seen by Dick Morland.

The highlight of the month of June and the whole summer was a Limpkin. (See Round Table Notes, Page 48).

Some other important summer records were: A Snowy Egret at Ashland City marsh on 8-5, a species rarely recorded in Middle Tenn. (JCO, KAG); one Ring-necked Duck on 7-18 and thruout the rest of the summer on Bush Lake, (HEP); 1 Herring Gull at Old Hickory Lake on 7-4, a rare summer visitor, (DM); Common Tern at Buena Vista marsh and Bush Lake on 6-23 and 26, another rare summer visitor, (HEP); and Ovenbirds breeding at Basin Springs, (KAG).

A trip to Goose Pond south of Manchester, Tenn. on 8-2 resulted in the finding of such probable breeding species as Least Bittern, American Bittern, King Rail, and one Purple Gallinule. Also found were one Sora and one Short-billed Marsh Wren; the status of these last two species needs investigating, (AFG, JCO, DM).

The discovery of a section of Ashland City marsh which had been partially drained resulted in several good shore bird records. Flocks of over 100 of these birds were found on several of the trips to this area, the first of these large flocks coming as early as 7-16 when the flock contained 127 shore birds of 8 species. Western Sandpipers were found on 7-23 and 8-17 to give Middle Tennessee its first records, (JCO). Stilt Sandpipers on 8-5 and 8-7 were Middle Tennessee's third record, (JCO, KAG). The number of herons and egrets at the marsh were also large, the peak being on 8-20 when approximately 120 were found, mostly Little Blue and Great Blue Herons.

Other signs of the approaching fall migration were: One Black-bellied Plover at Bush Lake on 9-1, (HEP); 37 Black Tern on 7-16 at Cheatham dam, (JCO, DM); 25 Common Tern at Bush Lake on 8-21, (HEP, et al); 7 Forster's Tern at Pond creek on 8-27, (JCO, DM); a flock of 200 Bank and Barn Swallows on 8-20 at Ashland City marsh, (JCO, DM); at least 5 species of non-resident warblers by 9-3 at 2J's and Stones River, (JCO, George R. Mayfield, Jr.); 3 Bobolinks at Ashland City marsh on 8-30, (JCO); and a Savannah Sparrow at the home of Mrs. Helen Hodgson on 9-5.

JOHN OGDEN, White Oak Drive, Nashville, 12.

COOKEVILLE.—Weatherwise, we have had a bit of the unusual, perhaps more so than some other sections of the state. Late spring and early summer brought many cool days and more than ample rain. (Gardening was difficult and unrewarding except for cool-weather species.) On May 26 and 27 there was frost, almost — a very late cold "snap". Even in August and September, thus far, hot and dry days have not been numerous.

Birdwise, we do have a few bits of interest. One (CH) has seen more-than-usual numbers of Robins and Cardinals along the east-side of town. One marked pair of Cardinals brought their brood to the same feeder many times during the summer. Another, (R.H.) found a nest of Towhee's in a clump of weeds on the ground instead of the typical site. A first for the writer was a pair of Flickers courting on the Tech campus. Evidence of a "come back" by the Bluebirds has been found. Three watchers, from 3 to 10 miles apart, have reported two or more broods of young ones apparently thriving under parental care (RH, CH, CWC).

P. L. HOLLISTER, Tennessee Tech., Cookeville.

CHATTANOOGA.—As I am sure was true all through our region, we had a cool and damp season, which from the standpoint of the gardener had an almost unbelievable effect on the growth of flowers, shrubs, and veg-

etables. For the birder, the important item in production was not weather but work. And for a collection of fine reports, we can thank some real workers in our organization.

For the second year, the fruitful Spring Creek mudflat site produced nesting Yellow-crowned Night Herons. Beginning on April 21 and continuing into mid-May, Mrs. Maxine Crownover recorded her observations of these nesting birds. Then, on June 1 she reported four immatures successfully out of the nest. This study produced another interesting fact. The herons used last year's old nest to raise this year's brood.

A banding quest for Redwinged Blackbirds led Benton Basham and Nat Halverson into a marshy area near Apison, Tenn. What they found was far more; 3 active nests of the rare Least Bittern. Inside these homes, they found a total of 7 young and 4 eggs. In subsequent visits, they added two more nests to the total. So we have a new summer resident.

A recent news release in the Chattanooga **Times** gave the area its first positive nesting record of the Osprey. In working on a channel light tower just above Watts Bar Dam, the U. S. Coast Guard discovered the nest. Fortunately for us, the nest was turned over to Mr. Kurt Krause, curator of the Elise Chapin Audubon Sanctuary and TOS member. Mr. Krause turned in the detailed story on the findings to the paper.

One of the outstanding finds of this six-month period was the April 30 (Spring Census) Virginia Rail reported by a party from Southern Missionary College. This is the first record of the occurrence of this species in the Chattanooga area. Those responsible included E. O. Grundset, Billy Griffith, and Benton Basham.

On April 22, the Common Gallinule was identified by Mrs. Crownover, the third record of this species for the area. Perhaps even more unusual was her report of the Wilson's Plover on June 26. Club records show no other Spring or Summer dates on this bird.

Through the invaluable assist of his mist nets, Ralph Bullard has produced quite a set of records to add to our knowledge of local bird activities. His contribution on rare Spring migrants included five Northern Waterthrushes (previous to this a rare bird), one Philadelphia Vireo (4-30), and one Yellow-bellied Flycatcher (5-21). Just as exciting for those members who took advantage of the educational experience was the "massive" June 3-5 Cliff Swallow banding operation. (See page 37).

The Wests supplied two more rare bird records for our report: the Mourning Warbler on May 21, the second sight record for the vicinity of this species, and the House Wren on April 30. On two consecutive days, April 29 and 30, first Benton Basham then Ralph Bullard saw the rare Warbling Vireo.

ROCK COMSTOCK, 1000 South Crest Road, Chattanooga 4.

GREENEVILLE.—During March two Great Horned Owls were heard along Lick Creek and Roaring Fork Creek in the western half of Greene County. Later (April 22 last date recorded) the hooting stopped and was not heard again until early Sept. At the same time in Sept. another Horned Owl was found dead in the street in the south end of Greeneville.

On March 28 three Brewer's Blackbirds (2 female, 1 male) were observed for two hours while they followed a disc over freshly worked garden. At times they were no more than three feet away.

About April 2 Cedar Waxwings stripped the berries from a holly tree in Tusculum. During the spring and summer a male Baltimore Oriole was

seen numerous times in north Greeneville; no nest was found. On April 22 a Whip-poor-will was heard to call in the western part of Greene County. Whip-poor-wills nest in the eastern part of the county but are heard only in migration in the western part.

Two Long-billed Marsh Wrens were heard on April 23, and as late as May 8 Sora and Virginia Rails were seen in the bottoms along Roaring Fork. Due to prolonged dry weather from May through Sept., most marshy places in the western half of the county were dry.

May 2 nine Tree Swallows were seen on a wire near Mosheim. May 3 and 14 one Least Sandpiper was seen on a small mud hole in the bottoms along Roaring Fork. In contrast to 1960 the only time a Blue Grosbeak was heard was June 22 and 23.

This year Bluebirds were more common than they have been for several years.

On July 2, on a walking trip to Mt. Guyot from Cosby Campground, after reaching the top of the ridge there was no time in which Winter Wrens could not be heard on the Tennessee side and Veerys on the North Carolina side. Both were on top of Mt. Guyot. During July, on the 25th, a Greater Yellowlegs was observed and heard flying overhead and going southeast. Indications of early fall migration, on Sept. 8, were a White-eyed Vireo singing a warbling song early in the morning in a place where none had been earlier, and in late afternoon large flocks of Nighthawks moving down the creek valley.

When a barn burned at Glenwood after dark it was noticed that ten or twelve birds fluttered above the blaze. Their flight was random and without direction. Their sizes and shapes suggested two Killdeer, two pigeons, one hawk or owl and others smaller. They could have been on migration, confused by the light or, nearby roosting birds attracted by the burning.

KINGSPORT.—The only unusual observation of the past season came the week after our winter report to THE MIGRANT. On March 21 a wild Turkey was observed about 7:30 a. m. along Industry Drive between Holston River and Bays Mountain by three astonished Eastman laboratory workers who have hunted Turkey in the Smokies. It was plainly visible standing along the road and flew toward Bays Mountain.

For us spring was unusually long, cool and lovely. The average date here of the latest killing freeze is April 1, as azalea fanciers know; this year the mercury dropped lower than freezing only once after the middle of February although we had a little light but not killing snow. Birds began singing early in the year and sang throughout the day well into the summer. Some first dates for spring migrants were: March 23, Purple Martins; March 28, Rough-winged Swallows; April 6, Tree Swallows; April 16, Osprey; and April 22, Whip-poor-will, all rather late. April was marked by rain and high winds. But we enjoyed three wonderful weeks of bird migration, the last two weeks in April and the first week in May. Perhaps never before here in Kingsport have there been such large numbers of so many species visible in that length of time. The warblers were especially notable. And all were singing. During a cool June the summer residents also were very vocal and active throughout the day.

In July the temperatures were stable ranging from a steady low of 68 to a high of between 83 and 88. All birds, except Robins, continued to sing. Kingbirds appeared regularly for the first time in our records. Several

members believe the Blue Jay population is still increasing more rapidly than other species in residential areas. Bewick's Wrens and Bluebirds are still declining in numbers. Reports were received of Little Blue Herons on the lakes where they have not been reported since 1952. But Green Herons were scarce.

August was very humid with frequent showers that kept the lawns green. On August 6 I saw Purple Martins feeding young on our telephone wires, but by August 12 all the Martins had left. Records of in-coming migrants include Baltimore Orioles on August 25. About 5 a. m. August 24 I heard a Whip-poor-will in Reedy Creek valley below the beech woods on our property where they've never before been heard. Baltimore Orioles were again seen August 31, a late date, and a Blue Grosbeak. This is the fourth year we've seen Blue Grosbeaks at this season. A few shore birds also were recorded the last of August.

During September we've experienced our hottest weather of the year with 90 recorded as late as Sept. 23. Our chief efforts in September go to observations of the hawk migration.

ANN HARNEY SWITZER, 1620 Fairidge Place, Kingsport.

RESOLUTION

Whereas, The Tennessee Ornithological Society, assembled in its annual meeting, May 5, 6, 7, 1961, at Reelfoot Lake does consider this one of its most successful meetings, and

Whereas, the planning and leadership of those responsible for this meeting has contributed significantly to the pleasure and success of this conclave, now therefore be it

Resolved, That the Society express its deep gratitude to the Memphis Chapter of T. O. S. and the steering committee composed of Mrs. Norene Smith, Miss Mary Davant, Mr. and Mrs. Ben Coffey, Miss Ella Ragland, Miss Alice Smith and Mr. L. D. Thompson for all arrangements and the warmth of their hospitality; to Dr. Gordon Wilson for the fine evening program he gave us; to the Tennessee Game and Fish Commission, and in particular to Mr. Jack Richardson and Mr. Eugene Ruhr for making available their facilities here at Reelfoot including boats and leaders for trips about the Lake; to Mr. Preston Lane of the U. S. Fish and Wildlife Service and Dr. C. L. Baker of the Reelfoot Lake Biological Station for the availability of their facilities; to our President, Paul Pardue, and Secretary, Mrs. Garlinghouse, for the foresight and diligence with which they have worked for the success of this meeting; to Dr. Lee R. Herndon, Editor of the **Migrant,** for his constant attention to making the **Migrant** an objective reflector of the ornithological pursuits of our membership; to Mr. Thomas Finucane our gratitude for careful, accurate execution of the demanding responsibilities of Treasurer during the past four years; and, finally, we would dispatch our warmest felicitations to Dr. George R. Mayfield, Sr., a Founder of T. O. S., who could not be present at this meeting.

Respectfully submitted this the 7th day of May, 1961

Resolutions Committee
Katherine Goodpasture, Chairman
Ralph Dunckel
J. T. Mengel

Adopted by the Tennessee Ornithological Society, May 7, 1961

Paul Pardue, President

Mrs. H. C. Garlinghouse, Secretary

BRADFORD TORREY

Until recently, if asked who Bradford Torrey was, I would have replied with some hesitation: "A nature writer, now nearly forgotten, of the New England school, whose descriptions of the songs of warblers were quoted in Chapman's **Warblers** and other standard works." Then, chancing to pick up and read Torrey's **Spring Notes from Tennessee** (Houghton Mifflin, 1896), I found it excellent summer literary fare for a naturalist.

The gentle Torrey, umbrella in one hand (he was intolerant of the sun), opera glass in the other, spent three weeks in the spring of 1894 wandering about the great battle fields of Tennessee observing the birds, wild flowers, scenery and people. It is surprising that I should happen to read his accounts of Chickamauga, Lookout Mountain and Missionary Ridge in the very year when the centenary of the Civil War is being celebrated. A generation before Ludlow Griscom, two generations before Roger Peterson — we immediately realize that Torrey was in their class as a bird watcher. As an author his prose is unfailingly pleasing and at times distinguished.

A few quotations will be the book's best recommendation:

Of the Kentucky Warbler—"In movement and attitude they made me think often of the Connecticut Warbler, although when startled they took a higher perch."

"A cuckoo, further away, broke into a shuffling introductory measure that marked him at once as a black-bill."

Of the Black and White Warbler—"He goes round a bole just as he sings, in corkscrew fashion."

Of a Field Sparrow on Lookout Mountain—"The dead could want no sweeter requiem than he was singing."

"Whoever loves the music of English Sparrows should live in Chattanooga; there is no place on the planet, it is to be hoped, where they are more numerous and pervasive."

And, in a more general vein:

"When a man goes in search of a mood he must go neither too fast nor too far."

"In morals, as in archery, the target should be set at a fair distance."

Of a windowless cabin—"A house to fill a social economist with admiration at the low terms to which civilized life can be reduced."

"He turned out to be a man who had kept his eyes open, and, better still, knew how to say 'no, suh', as well as, 'yes, suh'."

"I had learned nothing, perhaps: but unless a man is far gone in philosophy he need not feel bound to increase in wisdom every time a neighbor speaks to him."

"So easy it is to generalize; that is, to tell more than we know."

DEAN AMADON, Am. Mus. Nat. Hist., New York, N. Y.

Did you notice how sharp and bright the cover to the June MIGRANT was? Our thanks to our Curator, Mr. Albert F. Ganier, for the new plate he so generously provided our printer.

ROUND TABLE NOTES

A LIMPKIN AT NASHVILLE.—At 9:30 a. m., June 10, the writer was returning to his car after a rather uneventful four hours of bird-watching at Radnor Lake. With him were his parents, brothers and sisters, and his grandparents, Mr. and Mrs. W. M. Morlan who are active in the Audubon Society in Indianapolis, Indiana. Mr. Morlan was standing near the car which was parked next to the pond across Otter Creek Road from the big lake. As the writer neared the car he was cautioned to approach quietly. He was astounded to see a large brown bird perched on a tree limb directly over the road. Through his binoculars the writer could see a rather heavy and slightly decurved bill, yellow in color but with a dark tip, and a surprisingly long neck which was streaked with white. These streaks gave way to white spots which continued over the nape of the neck and down onto the upper region of the back. The legs and feet were dark. As it perched there on the limb, only twenty feet away, it could be heard giving low grunts which seemed to come from deep in its throat.

By now the rest of the group had approached, but the bird did not seem to mind serving as the subject for nine pairs of binoculars. A brief discussion ensued, and we all were sure that the bird was a Limpkin. Unfortunately, a car approached and the alarmed bird took off with neck outstretched and legs dangling behind. It flew straight down the road in the direction of Granny White Pike. The writer pursued it for about one hundred yards before losing sight of it. Hurrying to the nearest telephone, calls were made to Alan Munro and Henry Parmer who both arrived at the lake by 10:15 a. m.

We found the bird along the shore of the pond in deep shade, and we watched it for about ten minutes. Its identity was now verified by three members of the Tennessee Ornithological Society, and we began to spread the news to others. John Ogden went to the lake that afternoon and found the bird still on the same pond at 3:00 p. m. He watched it preen and feed, and then flushed it to see it fly. As he walked toward the bird it paused nervously and began to give little croaking sounds which increased in speed and volume as John moved closer. It then rose in flight with the outstretched neck and dangling legs and gave this croaking alarm note very loudly.

On the following morning, June 11, Will Hon, of the State Game and Fish Commission, located the Limpkin behind the big lake, again in deep shade. It was feeding along the shore, so he concealed himself in a tangle of honeysuckle and waited. The bird came within fifteen feet of his hiding place, and he watched it preen for almost an hour.

At 2:30 p. m. that afternoon, John Ogden and the writer returned to the lake and found the Limpkin again along the pond, and moving along the water's edge. Its movements were surprisingly similar to those of a rail, as each foot was raised and lowered with careful deliberation. We were able to venture within thirty feet of the bird without causing apparent alarm, except that it began to flick its tail and jerk its head. We left after about fifteen minutes to avoid disturbing it.

Recalling that Limpkins are nocturnal to an extent and that they often call at night, Fairman Cumming and the writer sat on the road from 9:30 to 11:00 p. m., but the only sounds of the night were the frogs and two

Barred Owls. On the morning of June 12 the bird was nowhere to be seen, and subsequent trips were unsuccessful. We can only deduce, then, that the Limpkin left during the evening or night of June 11. Recalling that the night of June 10 was very stormy, we can perhaps explain why the bird had not left sooner.

There are several things about which we naturally wonder. Where did the Limpkin come from? What caused it to come here? What did it eat while it was here? Where did it go? As far as we can ascertain there were no great storms in the Southeast which might have forced it to this area. We can only call it a stray. This is the first record of a Limpkin in the state of Tennessee, and any record of this species outside its breeding range in Florida and southernmost Georgia is extremely rare. This fact is largely explained in that the species is non-migratory.

Forbush describes its favorite food as large fresh-water snails. Bent, in **Life Histories of North American Marsh Birds,** 1926, page 257, states, "The Limpkin seems to feed mainly on animal food, which it finds in the swamps where it lives, such as various mollusks, crustaceans, frogs, lizards, worms, and aquatic insects." In examining this diet we realize that Radnor Lake could easily supply several of its items—frogs, lizards, worms, and aquatic insects. There is also a fair abundance of peri-winkle snails in the lake. Dr. Henry Bryant (1861) describes its manner of feeding on snails. "Its manner of feeding is to hold the shell in one of its feet, and then with a few blows of its powerful bill to detach the animal, which it immediately swallows." Perhaps the Limpkin found it possible to apply this method to a snail as small as the peri-winkle.

We surely wish that the bird had remained so that more people could have observed this very interesting species.

RICHARD E. MORLAN, 1603 18th Ave., So., Nashville 12, Tennessee

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SNOW BUNTING AT MEMPHIS. — Pough's "Audubon Bird Guide of Small Land Birds of Eastern and Central North America" states that "snowflakes" are especially attracted to the trash which the wind blows up on lake and stream shores, and the first arrivals are found there. On the sea coast they frequent the dunes, salt mashes, and windswept grasslands, and the open beach, where they sometimes follow the waves like sandpipers. The Gumbo-sand shoreline of the Mississippi River on President's Island at Memphis, where I have been observing Black and Caspian Terns, Bonaparte's Gull, Golden Plovers and various species of shorebirds and waterfowl, has one-half mile of shoreline habitat facing north, bordered by an extensive willow thicket. Small switch willows, with thinly scattered patches of loose grass, heavily laden with seeds, growing beneath, border these and scattered driftwood is deposited at the top of the small shelf left by the receding river. The beach is nearly forty feet wide and has small rain-washed gullies in the muck and sand to the river's edge at zero stage on the river gauge. This is the setting for the adventure of discovering the first Snow Bunting (Plectrophenax nivalis) in the Memphis area. I haven't visited this site often in the fall of 1960. November 2, 1960 presented the only thorough observations made. This individual was flushed as I walked between the water's edge and willows. I immediately saw

that the bird was unusually white with "black-bordered" wings. After a bounding flight of only a few feet, it again came to rest on the gray sand beach in a small gully, pressed close to the ground. I speculated whether it was a Horned Lark, in albino plumage, an injured woodpecker or an escaped cage bird but as I brought binoculars into play I noted the orange smudge on the breast, on the crown, cheek patch and lower back. Above, the bird appeared light gray on the nape and back with a few fine dark streaks on the upper back. The wings were predominantly white with jet black tips, showing a long white mark when at rest. The underparts were brilliant white. The tail showed the black and white pattern flashing brightly in flight. The feet were blackish and the bill a very light pink. The head was rounded, darker on the forehead. After returning on 11-3-60 to study this bird at close range for quite a while feeding and sunning itself on a driftwood log on the open beach, I went in search of more "Snowflakes."

OLIVER F. IRWIN, 1789 Glenview Ave., Memphis 14.

BREEDING OF CEDAR WAXWINGS NEAR CHATTANOOGA.—On Saturday, July 1, while visiting friends in a residential area bordering Chickamauga Lake, I heard the voice of a Cedar Waxwing. It was only a matter of minutes before it was located, sitting in the top of a tree on the adjoining private property. In about 10 minutes a second bird appeared and perched in the top of another tree nearby. Soon the second bird flew to a pine tree where it disappeared within and was not seen to leave. Search for a nest was fruitless.

Owners of the property were alerted to the interesting possibilities, and the following Saturday we were told that a young waxwing had been rescued from the ground. When asked what should be done with it, we recommended that it be placed on a branch and left for the parents to feed it. The next morning, 7-9, we visited the site and found the fledgling just where it had been placed the night before. The parents were reluctant to come in to feed it while people were in sight, but one finally did. In the meantime, one wild cherry was hand fed and accepted readily. Color movies were made from a "blind" of the fledgling being fed by hand and by the parent. No other fledglings were located.

A search of THE MIGRANTS issued since 1938 and the checking of hundreds of references to the species revealed actual breeding records only in the Knoxville area in 1951 and 1954, though it may be that other records were overlooked. In several issues there were references to assumed breeding in mountain areas of the state.

Possibly observers have not reported their findings because they were unaware of their importance, particularly at lower elevations. This is true of myself in two cases. In my early days of birdwatching I saw fledglings on one occasion in the Elizabethton area, about 10 years ago. Within a year of this observation, I also saw waxwings at their nest in a pine tree near Greeneville, although J. B. White's annotated list in THE MIGRANT of March 1956 refers to the Cedar Waxwing as a fairly common winter resident. It is certainly very easy for this bird to be present in midsummer without our being aware of it, and I hope that all Tennessee observers of nesting Cedar Waxwings will so inform the editor who may wish to prepare a summary for publication.

MRS. E. M. WEST, 5511 Dayton Blvd., Chattanooga 5, Tenn.

LAUGHING GULLS AT NASHVILLE.—On Thursday, 9-14, 1961, three Laughing Gulls *(Larus atricilla)* were found at Bush Lake sitting on the point of an island in the lake with Common and Black Terns. They were in the immature plumage, a uniform grey-brown on the head, neck, breast, wings, and back with a much lighter belly. The bill was rather heavy looking and black. In size they looked not much smaller than Ring-billed Gulls. The gulls occasionally took flight to feed at which time the conspicuous white rump and light grey color of the proximal half of the tail shading into a wide dark sub-terminal band and the narrow white terminal band could be easily seen. The main points which separated this species from the similar immature Franklin's Gull were the dark breast, shading on the tail, and the larger size.

The gulls were identified by John Ogden and later confirmed by H. E. Parmer. While they were still at Bush Lake a fourth one was seen on Old Hickory Lake by Laurence Trabue.

The probable explanation of the appearance of these Laughing Gulls at Nashville so far from their coastal habitat is Hurricane Carla. It is possible that these gulls were caught in Carla on the Gulf Coast and carried inland by the strong winds. On the 12th and 13th Nashville experienced gusty winds from the south reaching 20-25 MPH on the 13th. These winds were a direct result of Carla as it moved northward to the west of Nashville, the counterclockwise air movements producing southerly winds for the areas east of the center of the low pressure area which was the heart of Carla.

The owner of the lake stated that the gulls had arrived on the afternoon of the 13th and Mr. Parmer reported that they were not at the lake after the 14th. It is believed that birds that are displaced from their normal range will try to return as soon as possible.

This is at least the 8th record of this species for the state but only the 2nd for Middle Tennessee.

JOHN OGDEN, Box 296, South Stadium Hall, Knoxville 16, Tenn.

BLUE-WINGED WARBLER.—On May 22, 1960, while walking in Chickamauga Park in Georgia, I saw two adult and one young Blue-winged Warbler. The site is in the northwest part of the park on a slight rise in a comparatively open patch of bushes, small deciduous trees, and a few pines. The ground is covered with weeds, sweet clover, blackberry briars, and the wild grass that country people call cheat. It is bordered by taller trees. I saw the first adult in a small walnut tree and soon saw the other adult, one being paler than the other and both showing white spots in the spread tail. After watching the pair for several minutes, I found a fledgling on the ground, too small to fly. The parents came within three feet while I held the fledgling.

The next day an adult pair and two youngsters were seen at the same spot by Rock Comstock, Jr., member of the chapter and park historian. A few days later, two singing males were seen in the vicinity by Adele West. Summer records for 1959 indicate this species probably nested in the park that season, also, but no investigation was made at that time.

LEO F. ACUFF, 210 High St., Chattanooga 3.

NASHVILLE PURPLE FINCH TRAPPED IN MAINE IN 1960 AND 1961.—On March 31, 1960, I banded a Purple Finch *(Carpodacus purpureus)* with band No. 64-12593 which was re-trapped on Apr. 1, 3, 5, and 8, 1960. Reports have been received from the Bird Banding office that this bird was trapped and released at Somesville, Mount Desert, Hancock Co., Maine on June 17, 1960 by Mrs. R. W. Patterson, and in the following year on May 13, 1961 at the same station.

When trapped in Nashville, it was in the brown plumage of female and first year birds, but it had a reddish wash on parts of the plumage. The flattened wing measured 84 mm. which was one of the longest that I had handled. My notes state that it was probably a male. In 1961, Mrs. Patterson reported it as a male.

Previous to 1960, I had banded only two Purple Finches in 28 years of banding. During the snowy season of 1960, I banded 387 from Mar. 8 through Apr. 18. No. 64-12593 is the only recovery reported. In 1961, considerable snow fell in late winter but no Purple Finches returned to use my feeders and I had only two sight records at my station: a male and a female on Nov. 27, 1960 and a singing male on Feb. 22, 1961.

Although I do not have a complete list of recoveries of the species involving Tennessee, the following are in my file:

No. 54-60189, banded at West Hartford, Conn. Feb. 27, 1954, was shot at Cookeville about Dec. 18, 1957 (F. & W. S. report).

One banded at Somesville, Maine on Mar. 17, 1959 was recovered in Cookeville, Feb. 1960.

One banded at Signal Mountain, Tenn. Apr. 6, 1960 was caught at Somesville, Maine May 24, 1960. (Latter two reported in Maine Field Observer, 1960. 5 (11):125).

AMELIA R. LASKEY, 1521 Graybar Lane, Nashville 12, Tenn.

TRAILL'S FLYCATCHERS.—The first Traill's Flycatcher *(Empidonax traillii)* of the season was reported on 5-21. The location was the same as that where the colony had nested the previous three seasons. It is also the same area as that where Operation Recovery has been conducted during the falls of 1959 and 1960. In fact mist netting and banding has been carried on almost continuously in this area for a full year on almost all week-ends when weather would permit, except during the spring migration when the writer was away for several week-ends. Prior to the summer of 1961 only one adult and no nestlings had been banded. No netting had been carried on in the area during the breeding season.

From June 1 through Sept. 30, 1961, 17 adults and 4 nestlings were banded. All of the nestlings were from the same nest. At least 7 males were singing "on territory" in the area during the breeding season, however, only three completed nests were found. The first evidence of nest building was a partially constructed nest in an elder bush on June 11. On June 18 the partially constructed nest had been completely removed. On this date Mr. A. F. Ganier found a completed nest about 60' from the original site, in a small clump of willows, about 2' above ground. On 6-24 it still contained no egg. On 7-1, 3 eggs; 7-8, 2 eggs; 7-15, 2 young two or three days old. On 7-22 it was empty when I had expected to band the nestlings. The finding of this nest added a new species to Mr. Ganier's life list of bird nests.

On the same afternoon, June 18, two other nests of this species were found by the writer. Nest No. 2 was 8' above ground in a small elm tree. It contained 2 eggs; 6-24, 3 eggs; 7-1, 2 young and 1 egg; 7-15 the nest had been completely removed.

Nest No. 3 was in a dogwood tree, near the extremity of a horizontal branch, completely shaded by leaves and about 6' above ground. The rather small dogwood and a cedar had grown only a few feet apart and were located in a rather dry open field about 50' from the nearest water, a marshy area containing willows and elms bordered by blackberry briars. This nest was the farthest from water of any nest of this species found to date, in this area. Usually they have been directly over flowing water or in a marshy area. The nest contained 4 eggs when found. On 6-24, 4 newly hatched young; 7-1, the four well developed young were banded; 7-8 the nest was empty.

During the Shady Valley Foray, June 17 and 18, at least 6 singing male Traill's Flycatchers were found along Beaverdam Creek just north of the intersection of highways 91 and 421. While standing on the bridge over Beaverdam Creek these birds could be heard singing on either side of the road. The elevation at this location is about 2,775'. A thorough search of the area revealed no nest. It is likely that at this elevation, nest-building had not started, since the season was late and some birds at the lower elevation had only started nesting activities. A single singing male was found near this area in 1960 (THE MIGRANT, **31**, 55, 1960), but no nest could be found. The Laurel Bloomery area, reference above, was not visited during the breeding season of 1961.

LEE R. HERNDON, 1533 Burgie Place, Elizabethton.

LATE NESTINGS OF THE YELLOW-BILLED CUCKOO.—One of the most erratic and peculiar of our native birds is this species *(Coccyzus a. americanus)* and this is particularly true of its nesting habits. They procrastinate about this rather necessary chore until most other birds have raised their broods and then, after a late summer round of noisy calling, proceed with their nesting.

In THE MIGRANT (**26**, 64, 1955) I described a nest near Nashville which on September 6, 1954, held one young about 5 days old and a smaller one dead. Two years later and a few hundred feet from the 1954 site, I found a nest which on August 20, held 2 young about 5 days old. This year, on September 1, 1961, I found a nest on the grounds of Belle Meade Mansion at Nashville, that held 2 young about 5 days old. It is well known that they develop rapidly and leave the nest before they can fly well so I was not surprised to find them gone on Sept. 4. The ground under the nest was whitened with their excreta so it was evident they had fledged successfully. This nest was 9 feet up on a heavily-leafed hackberry limb.

Of nine nests which I have found near Nashville, the approximate dates of laying the first egg are as follows: May 25, 26, 29, June 24, July 16, 21, August 2, 14 and 18. The number of eggs or young in these nests were: one nest with 1, six with 2, two with 3 and one with 4.

Looking thru recent volumes of THE MIGRANT, I find that Mrs. Nevius at Greeneville reported having found a young bird with feathers as yet unsheathed on August 21, 1950. At Memphis, Ben B. Coffey reported an immature, "just able to fly some", on Sept. 16, 1951.

ALBERT F. GANIER, 2112 Woodlawn Dr., Nashville 12, Tenn.

SUMMER TANAGER CONSUMES WASP LARVAE.—A male Summer Tanager was observed, on August 22, inside a porch eating wasp larvae. From a perch, the bird would fly up and hover under a wasp nest until he had extracted a pale yellow larvae, then return to the perch to eat it. This continued for probably thirty or forty minutes until either the bird was satisfied or until the larvae supply was exhausted. Several nests approximately 2" in diameter had been emptied.

ANONYMOUS. Greeneville.

YELLOW-BREASTED CHAT.—A Night Soloist — For two years now a pair of Chats have nested near our home—so near last year they were only a few feet beyond the end of the back yard walk. Mr. Chat came daily to the bird bath for a cooling dip, and went gaily back to his duty of guarding and singing. This year the nest was not so close, but he was always singing. I often wondered when he took time to snatch even the needed '40 winks' of sleep. Most any time day or night he could be heard chattering his notes—even on the darkest of nights. He didn't seem to need the beautiful moonlit nights to inspire his serenade, on rainy nights he just chattered his funny little song notes as if he enjoyed the rain. His mate seemed to be a very demure, stick-to-her business type. She was seldom seen, even when they were feeding young—she slipped through the underbrush, noiselessly, scolding if I was too close, or if she caught me looking in on her babies. They never seem to stay around long after the young are out of the nest.—MRS ELVA DARNELL, Route 4, Greeneville.

YOUR DUES are due January 1st, 1962, which will be before the December issue reaches you. Chapter members should pay dues to their local treasurers as promptly as possible. Those who are not Chapter members, or who are out-of-state members, or subscribers, will please remit direct to your State treasurer. The job of billing is costly and time-consuming so your cooperation will be appreciated. Since the amount involved is small, you may wish to consider letting your remittance cover both 1962 and 1963, or even longer.

HENRY E. PARMER, State Treasurer, 3800 Richland Ave., Nashville 5.

BOOK REVIEWS

THE BIRD WATCHER'S GUIDE. By Henry Hill Collins, Jr. Golden Press, New York. 123 p. $3.95.

For a beginner in "bird watching", this book gives many handy tips on identification, binoculars and scopes, censuses, attracting birds and many other important topics, as well as an informative summary of the many facets of bird observing. Surely the most experienced and well-read observer could find new facts of interest and value and could use this guide as a review of forgotten skills.

The many colored photographs and illustrations make this book most attractive. The quality of photography is excellent as the work of well-known photographers, Cy La Tour, Helen Cruickshank, and others, was used. These well-chosen photographs cleverly supplement some point brought out in the text.

As this guide covers many topics, one cannot expect it to develop any one topic extensively; however the author has done well. A list of a few of the twenty-two chapters follow so that the reader might get an idea of the scope of this book: "Equipment for Bird Watching," "How to Identify Birds," "The Voices of Birds," "Attracting Birds About Your Home," "Photographing Birds," and "Bird Banding."

H. P. LANGRIDGE.

BIRD SONGS IN YOUR GARDEN — Complete with high-fidelity 33 1/3 rpm phonograph record. Full Color * Full Song. A Cornell Laboratory of Ornithology Book album. Text and photographs by ARTHUR A. ALLEN, Phonograph record by PETER PAUL KELLOGG, Cornell University Records. Cornell University Press, 124 Roberts Place, Ithaca, N. Y. Price $5.95.

The songs of twenty-five birds which are frequently found in and around the garden have been faithfully recorded and reproduced. On one side the vocalist is announced while on the reverse side only the songs are given. Color photographs of each kind of bird are presented in the booklet in the same order as the song which will assist the novice in identifying the bird by appearance as well as by song. A brief sketch accompanies each photograph, giving some characteristic features of the bird, such as, characteristic field marks, habitats, nest and locations, eggs and young.

Suggestions are given for attracting birds by providing food, water and nesting sites. Specifications are given for the construction of a few bird houses for some of the more common hole-nesting species. A list of selected reading references for gardeners is given. LRH.

BINOCULARS AND SCOPES AND THEIR USE IN PHOTOGRAPHY. By Robert J. and Elsa Reichert. 128 pages. Chilton Company — Book Division. Paper covers. $1.95.

Robert and Elsa Reichert have assembled a wealth of material, expressed in understandable language, relative to optical equipment. Various types of binoculars, telescopes and cameras are described, pointing out features which distinguish quality products from poorly constructed substitutes.

For those unfamiliar with optical equipment, attention is called to features which assist in the selection of suitable equipment for the desired purpose. Also helpful suggestions are given with regard to selection, care and use of binoculars and telescopes. The three main divisions of the book are: binoculars, scopes and binocular and scope photography. Some of the topics discussed are types of binoculars; magnification and resolving power; relative brightness; relative light efficiency; field of view; focusing; alignment; mechanical design; optical performance; helpful hints and the country of origin. Similar information is given for telescopes and accessories in conjunction with various types of photographic equipment.

The booklet is illustrated with sketches, diagrams and photographs of various types of equipment and comparative results obtained with these optical instruments.

LEE R. HERNDON.

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LEE R. HERNDON, Editor, 1533 Burgie Place ..... ELIZABETHTON, TENN.

Dear T.O.S. Members —

Having at the same time written an epistle in the News Letter, I feel that I must keep this message to brevity. There are many things that could be said, but neither time nor space permit.

One thing that I think appropo at this time is that of membership, both as it applies to the broader State organization and to the individual Chapters. Certainly, none of us is working to keep members out of our Chapters, but how much are we doing to bring them in? I feel that we can increase our numbers at any time in direct proportion to our efforts in that direction. There are so many reasons we need more members, not the least of which is the direct benefit these persons would get from the work they would get into. I feel that we should go after more young people, for in this way we would be building for tomorrow.

Secondly, and I mention this in direct response to a suggestion by our worthy Editor of THE MIGRANT, Dr. Lee Herndon, of Elizabethton, there is the broader aspect of new Chapters being created. I have been in West Tennessee for a great many years, have travelled it from one end to the other, think there are some fine small cities and towns located West of the Tennessee River. And we have a Chapter in Memphis only! This is probably more the fault of Memphis than any other, for I'm sure there is the nucleus of T.O.S. membership in a dozen West Tennessee towns. I'm certain this applies to all parts of the State.

One reason, and a prime one, for needing new Chapter members and more individual members is that of finances. As many of you know, with the increasing costs of producing THE MIGRANT from year to year, it is getting to be a close race with red ink. There are only two methods of obtaining new revenue, that of raising dues or having more people pay the same dues. Of the two, I think most of us would rather think of more people rather than more money per person. This is something to think about.

I have already expressed my desire of having any members of T.O.S. write me concerning any matter of interest. I reiterate that here. Since we cannot drive around the corner on our respective meeting nights and pay each other a visit, let's write often and long. Certainly, our interests are common and little that we could say would become boring. I shall be looking for a letter from each of you. In the meantime, happy birding until we meet in Nashville in May, 1962.

Sincerely,
EDWARD M. KING, President

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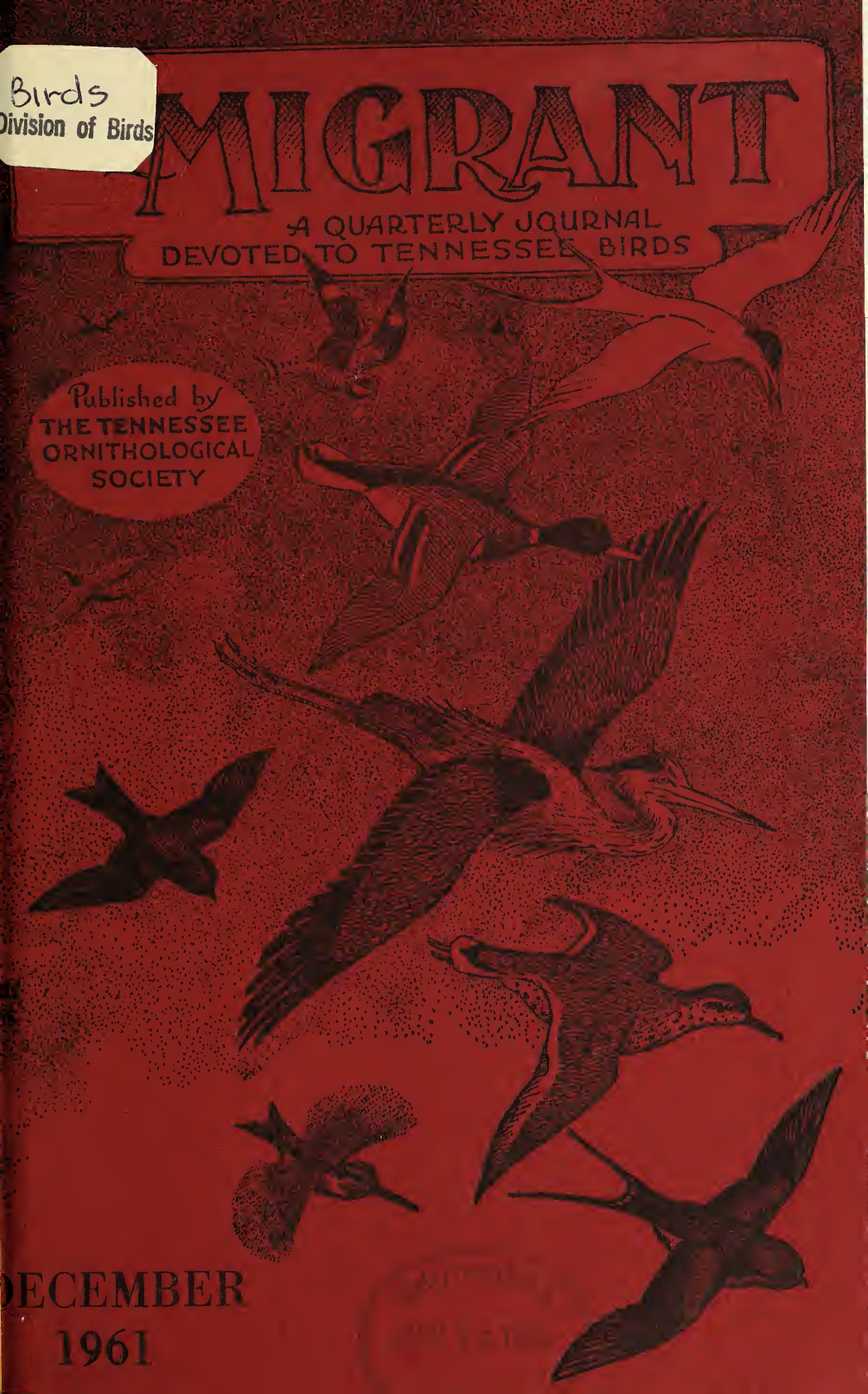

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ANNUAL AUTUMN HAWK COUNT 1961

By THOMAS W. FINUCANE

The 1961 count of the migration of hawks southbound through Tennessee gave a total of 6000, of which about 95% were Broad-winged Hawks. This is the third largest total compiled by the Tennessee Ornithological Society in 12 consecutive fall counts. In 1959 we had 11,000 and in 1960 we had 10,000. The combined count for 12 years is about 50,000. More than half of this total was compiled in the last three counts.

An outstanding feature of the 1961 project was that 10 Bald Eagles were reported. Five of these were seen at the Rogersville-Kyles Ford lookout, four at Elder Mt., and one at the Mendota Fire Tower, in all cases by experienced observers. In 1959 we had six Bald Eagles and three Golden Eagles. Excluding 1959 and 1961, the average count has been two Bald Eagles; only one Golden Eagle had been reported before 1959.

The higher totals for the project in the last three years can be attributed to increased interest and participation in the T.O.S. hawk study. Besides adding to the size of the record, increased participation provides better coverage of the area and gives the project the benefits of the talents of a greater variety of observers.

In particular, there is a report this year from Oliver Irwin, about 400 hawks, based on 65 consecutive days of observation in Memphis. His observations were made in an area where heavy flights are not seen, but the variations in the numbers of hawks with changes in the weather were carefully detailed and present an interesting picture. The data show five peaks, all coinciding with passages of cold fronts. The period covered begins Sept. 25, when a cold front passed across Tennessee, and extends to November 29. It includes the last part of the Broad-wing migration and gives an account of Red-tailed migration through the heart of Memphis. These are the only data we have had on hawk movement after the middle of October.

The Elder Mt. Lookout, manned by the Chattanooga group, recorded 1814 hawks on Sept. 17, the largest day's total for any lookout this year. The season's total for Elder Mt. was nearly 3000. Last year 4985 hawks were counted there, Sept. 25. Results for the past six years show that Elder Mt., where Adele West established a hawk lookout for the Chattanooga area, can be considered the best place to count hawks in the T.O.S. project area and the best place for Broad-wings anywhere south of Pennsylvania.

Some of the factors which make a good lookout are: geographical location, geophysical features, and good observers. It would not be unreasonable to argue that the geographical factor gives Elder Mt. an advantage over stations east of Knoxville. The argument would take into account

the flights that pass north of the Mendota Fire Tower and other stations near the east end of Tennessee, but avoid migration routes very far west of Chattanooga, which seem to be less attractive to the Broad-wings. Elder Mt. could then be considered to be in a geographical funnel.

Since Broad-wings fly across Pennsylvania in large numbers, headed for Mexico, some stations in the latitude of Tennessee are obviously closer than others to the average center of the flight line. In the long run we may be able to determine where the center of the flight stream is located. The outstanding contributions from Elder Mt., especially over the last three years, may be related to the peculiar atmospheric conditions during the period. Observations above 4000 ft. have been unaccountably poor during the last four years, as pointed out by Fred Behrend. Elder Mt. is 1880 ft. If for some reason the Broad-wings have been avoiding the higher mountains in recent years, their flights would be more concentrated in lower terrain, and this would be a factor in the larger counts we have had.

It is possible, furthermore, that as the season progresses, the tendency for the flights to avoid the high mountains increases. Fred Behrend reported a small flow of Broad-wings during the last week of August, spotted during noon-hour observations along Holston Mountain this year. In previous years he has reported August flights also in the Elizabethton area. In contrast, flights of Broad-wings in the second week of October have been reported from Knoxville and Chattanooga.

Aside from the geographical factor, the ideal place to see good Broad-wing flights should be from a mountain with a well defined ridge, not too long, and with steep sides. Such a lookout provides updrafts for the hawks and visibility for the observers. It should be taller than other peaks in the area, to minimize the effect of alternative routes which would deprive the observers of some of their hawks. Chimney Top, between Kingsport and Greeneville, should be very good, on the basis of these criteria. Haytor's Knob, in Virginia, is another example. We hope to give them more attention in the next few years.

Oliver Irwin's observations from a rooftop in Memphis demonstrate another kind of lookout, not far from the Mississippi River, which he has shown to be better than many of our mountain lookouts. The largest flights (20,000 hawks in one day) are recorded near the shores of the Great Lakes.

The peak date for Broad-wing flight across Tennessee is between Sept. 21 and 22. This year, however, the count reached 62% of its total on Sept. 17. Even without the 1809 Broad-wings recorded at Elder Mt. that day, the count would have reached 48% earlier than in any previous year.

The passage of cold fronts across Tennessee occurred on Sept. 14 and 25, according to the version of the daily weather map published in the New York Times. During most of the month a warm air mass occupied eastern United States. There was very little rain in East Tennessee. The frontal system bordering the warm air mass advanced and retreated repeatedly, and several cold fronts crossed New England during September before the Sept. 14 front, which crossed the entire eastern area of North America and advanced across Tennessee from west to east.

This front was followed, Sept. 15, 16, and 17, by 60% of the Broad-wings listed in this year's T.O.S. report. On Sept. 15, Maxie Swindell counted 729, all she was able to count in a large flight that was streaming through the clouds overhead, just west of Knoxville. Furthermore, an

estimated 1000 hawks (reduced to 300 Broad-wings for inclusion in this summary) were seen near Rutledge, not far east of Knoxville. The big flight recorded at Elder Mt., Sept. 17, was two days after Mrs. Swindell's observation and three days after the front. Also on Sept. 17, the Clinch Mt. lookout north of Rogersville had its best day of the season, with 275 Broad-wings and two Bald Eagles. The Mendota Fire Tower had 138 Broad-wings on Sept. 16 and 125 on Sept. 17. McQueen's Knob recorded 18 Broad-wings on Sept. 16, in contrast to zeros for Sept. 9 and 18. Feathercamp Fire Tower listed 23 Broad-wings on Sept. 16, its best contribution so far. Rich Mt. had 61, and the Union County Lookout, on Clinch Mt., had 12 Broad-wings on Sept. 17. Thus, all stations hade something to report in connection with the passage of the cold front on September 14.

The counts on Clinch Mt., however, at Mendota, Kyles Ford, and Union County, were not high compared to many counts made along the Clinch in years past. Furthermore, on the Mendota Fire Tower lookout, Sept. 15, one day after the passage of the front, Mrs. Switzer reported a total of only 13 Broad-wings, 1 to 4 p. m.

The Sept. 25 front passed across Tennessee a little east of southeast. On that day Holmes Rolston recorded 442 Broad-wings, a steady stream from early morning to late afternoon and, except for the 1959 flights, the highest total ever recorded on the Mendota Fire Tower lookout. The average for the two previous days at this lookout was 161 Broad-wings. On September 26 Elder Mt. recorded 322. Since it is well established that bird migration is related to the movements of cold fronts, it would be simple to conclude that these Sept. 25 and 26 maxima were caused by the Sept. 25 front. If this were correct, it would suggest, from the Mendota data, that there could be an increase in the flight well before the arrival of the front. This might be a reasonable concept were it not for the fact that the front was traveling east and the Broad-wings west.

The much more definite effects of the Sept. 14 front were one day late in Knoxville and three days late in Chattanooga (Elder Mt.). To accumulate hawks in such large numbers the front would have had to move them eastward, because the front was moving eastward. As explained earlier (THE MIGRANT **31**, 2, 1960) there is a limit to how far the hawks can afford to move to the east, in exchange for a quick trip south, the limit depending on how far south they are. The Chattanooga flight lost contact with the front three days to the northeast and the Knoxville flight one day before the hawks were sighted, according to the data.

Oliver Irwin received a communication from the Hawk Mt. Sanctuary, Pennsylvania, which he quoted as follows:

"Poorest hawk flights in history due to static high throughout the East."

Evidently conditions to the north were even worse than in 1959, the year the T.O.S. project had its best count. The phenomena which were the basis of our explanation for our good results in 1959 did not operate in 1961, according to the weather maps, and consistent with this difference, there was no spectacular entry of Broad-wings into our territory from the east this year. Furthermore, our 1961 count, although good, was 45% below our 1959 count. A similar drop in the Hawk Mt. count, below their low 1959 figure, would be more than enough to give them the worst year in the history of record keeping at Hawk Mountain.

In summary, it can be said that the 1961 hawk count has been particularly interesting. The Chattanooga group made an outstanding contribution, not only because of the big count on Sept. 17 but also because of nearly continuous coverage between Sept. 17 and Oct. 1. Oliver Irwin made an outstanding contribution. The Bristol Chapter did some good observing mainly at stations where the count is low but, nevertheless, significant. Meterological and other factors beyond our control contributed in the right way to make the survey more interesting, interpretation fairly simple, and the weather fine. The advantages of our area for studying Broad-wing migration continue to be convincingly demonstrated.

NOTES

(The item numbers correspond with the numbers in the column in the table).

2. This entry combines three reports from Fred Behrend's noon-hour counts: 5, 4, 4, 1, 6, Broad-wings, on Aug. 28, 29, 30, 31, and Sept. 1.

3. This entry combines 5 Broad-wings, Sept. 5, and 5, Sept. 6.

12. Maxie Swindell sent the following note: "Friday, Sept. 15.; time was from 10 a. m. until noon. Temperature was 54 at 7 a. m. and 70 at 3 p. m. Wind at tree level was from the north at about 8-12 m.p.h. The sky was clearing (no rain at all here that day) after several days of unsettled weather. Puffy clouds, not too high, were tumbled southward by a stronger wind current than the one at tree level. Hawks were visible through the breaks in the clouds — now seen, now obscured, but clouds and birds were moving swiftly southward. It was easy to recognize silhouettes without glasses at the flight level, and markings were clearly visible with glasses. I counted 729, but one person could not possibly count them all. I estimated about 96% of the ones counted were Broad-wings, but there were a few Red-tailed, Red-shouldered, Cooper's, Sharp-shinned, and Sparrow Hawks. All were using the tailwind to full advantage: the birds' wings were spread, and the wind carried them along; very rarely were the tips of a pair of wings just faintly crooked."

Last year Holly Overton saw 643 hawks not far from the scene described above.

14. This report was received from Tanner, via Howell, who reported that someone had seen "1000 hawks" in the Rutledge area (east of Knoxville). Although the number may very well have been more than 1000, it was reduced to 300 Broad-wings in the interest of caution.

15. The Bald Eagle was an adult. It wheeled around and around at eye level about a half mile out over the valley to the south of the Mendota Fire Tower, 9:15 a. m.

16. The Osprey was seen by Wallace Coffey on his trip home.

17. This report and the last one were the most productive of results of the series of six included as part of a program organized by the Bristol Chapter and directed by Wallace Coffey. The object in part was to compare Feathercamp, McQueen's, and Holston with other lookouts. Sept. 16, after the front, was distinctly better at these lookouts.

18. The flight started before 9 a. m. and totaled 68 before 9:30. For the next hour the count was only 8. Between 11:30 and noon, 996 Broad-wings were counted, and 424 in the next hour. From 1:00 to 2:30 not a single Broad-wing was recorded, but 225 were counted between 2:30 and 3:00, when the flight stopped, although the observers remained until 5:00.

20 & 21. Two lookouts manned by the Greeneville Chapter, Sept. 17. In both cases, the hawks were flying early in the morning, and none was seen after noon. At the fire tower north of Rogersville, the hawks were seen in two groups, with none between 10:00 & 11:00.

22. All hawks seen in the morning. None from noon until 4:30.

23. Holmes Rolston reported: "Unidentified birds between 11 and 11:30 were large hawks, and I am pretty sure not buteos or accipiters. The two flew together over the mountains for some minutes, turning, circling, and although I could see that they were brownish, I could not make an identification."

29. Enno VanGelder reported: "Many small birds were migrating over ridge (mostly east to west). Black-throated Blue Warblers were definitely identified; also Goldfinches, Vireos, and Nuthatches were heard.

35. Sept. 25, the best day at the Mendota Fire Tower, 453 hawks counted by Holmes Rolston. "Weather at the start was clear and sunny, an almost cloudless sky. Birds were already flying when I got to the tower. From here on through the mid morning the hawks flew low, well below the horizon, in singles and groups of up to 8, all along a well-defined path east to west over the south side of the mountain, fairly close in."

Noon: "These 75 were all in one long flight, very high overhead. There may have been more; the leading birds were nearly past before I spotted them, in a long chain which must have extended easily one mile along the mountain ridge."

Between 9:30 and 3:30 there was only one ½-hr. period with less than 10 Broad-wings. By 12:30 the flight had become so high that "they were mere specks to the unaided eye". By 3:00 they were flying low again.

Mr. Rolston and Mrs. Swindell (Note 12) reported they saw Chimney Swifts attacking Hawks.

36. This is the first of 65 consecutive days of observation by Oliver Irwin, who has been a student of bird migration and its relation to weather for a number of years, but this is his first substantial contribution to the T.O.S. hawk project. In addition to its being only the second report that has come from Memphis, it contains many interesting features. One is the close coincidence between the presence of hawk flights and the occurrence of frontal weather. Another is the migration of the Red-tailed Hawk, which flies through the Hawk Mt. Lookout in large numbers in November and December, but its late migration has never been part of our report before. Although Mr. Irwin's report is much condensed in this summary, the original material is on file as part of our permanent record.

The following is quoted from Oliver Irwin's communication: "Observation from a roof-top in the center of Memphis daily during noon hours, 9/25 to 11/19. A total of 378 southwardly migrating hawks were recorded in approximately 150 passages on 15 days of active migration on 65 days of observation. No hawks were recorded on 12 days with strong opposing southerly winds, 15 days with low-hanging clouds, 9 of which were very rainy, 14 days of clear, cold weather following frontal systems. Good flights preceded cooler weather, ending abruptly when clearing skies moved across the area.

"Most hawks in Sept. were Broad-winged. I don't know when the last one was seen here. Most hawks after 10/13 were Red-tailed. I don't know when the first was seen here. Marsh Hawks and Red-shouldered were seen in lesser numbers. None was seen on clear, bright days after fronts although daily checks were made from 10 to 2 p. m."

HAWK OBSERVATIONS FALL OF 1961

No.	Date	Ob.	h.	Lookout	Alt.	Wind	F	Sky	Shrp	Coop	Rdtl	Rdsh	Brdw	Mrsh	Ospr	SpH	BEgl	Uni-dent
1	8/27	B-D	4	Jane Bald		....	....	FR	3	....	2	....	.....	1	....	1	....	.....
2	30	B	3	Near Eliz.	2000	....	....		....	....	....	....	20	....	....	1	....	3
3	9/5	B	2	Near Eliz.	2000	....	....		....	....	....	....	10	....	....	....	....	1
4	4	HR	2	Mendota FT	3000	0-2 N	w	MB	....	2	....	....	.....	....	....	....	....	2
5	9	F	8	Mendota FT	3000	2-4 E	hot	BH	5	....	2	....	6	....	....	....	....	2
6	9	RG	4	Holston FT	4350	2-4 SE	6-7	VC	....	....	....	....	.....	....	....	....	....	....
7	9	Co	6	McQueens FT	3885	0-4 ESE	6-8	CC	....	....	....	....	.....	....	....	....	....	1
8	10	W-L	5	Elder Mt.	1880	3-4 SE	....	BC	....	....	....	....	.....	1	2	....	....	3
9	10	F	6	Mendota FT	3000	2 SSE	8	BH	....	....	3	....	4	....	....	....	....	1
10	11	RG	..	Bristol	1700	....	....		....	....	....	....	21	....	....	....	....	.....
11	11	HR	3	Mendota FT	3000	0-1 var	w	PC	....	1	2	1	21	....	....	....	....	.....
12	15	MS	2	West Knox		3 N	5-7	PC	....	....	....	....	700	....	....	....	....	29
13	15	Sw	3	Mendota FT	3000	var N	7	BC	....	....	1	....	13	....	....	....	....	.....
14	16	.....	..	Rutledge		....	....		....	....	....	....	300	....	....	....	....	.....
15	16	F	9	Mendota FT	3000	3-5 E	4-5	S	1	....	1	....	138	....	2	....	1	2
16	16	Co	3	Feathercamp	3700	3-4 E	4-5	S	....	....	....	....	23	....	(1)	1	....	.....
17	16	A-K	5	McQueens	3885	5-6 N	4-6	S	....	....	....	....	18	....	....	....	....	.....
18	17	WLC	8	Elder Mt.	1880	.... E	....	S	....	....	....	....	1809	....	....	....	....	5
19	17	T	4	Clinch, U. Co.	2100	2-3 E	6-7	CC	1	....	....	....	12	....	....	....	....	.....
20	17	D-C	3	Rich Mt. FT		4 NNE	6	BH	....	1	....	2	61	....	....	....	....	2
21	17	N	5	Rogvl FT	3000	6 E	7	PC	....	1	....	....	275	....	1	....	2	.....
22	17	F	8	Mendota FT	3000	4-6 E	....	S	....	....	1	....	125	....	1	....	....	.....
23	18	HR	4	McQueens	3885	0-4 SE	co	CC	....	....	....	....	.....	1	1	....	....	5
24	19	L	..	Elder Mt.	1880	....	....		....	....	....	....	220	....	....	....	....	.....
25	21	C	5	Lookout Mt.	2000	3 SW	....	CC	....	....	....	....	118	....	....	....	....	.....
26	21	CC	6	Elder Mt.	1880	3 SW	....	CC	....	....	....	....	3	....	....	....	....	.....
27	23	XX	8	Elder Mt.	1880	2 ESW	....		....	....	....	....	41	1	....	....	2	8
28	23	YY	8	Mendota FT	3000	1	6-8	CC	....	4	2	....	111	....	....	3	....	4
29	23	RG	5	McQueens	3885	2-5 NW	7	SC	....	....	....	....	.....	....	....	....	....	3
30	23	CoB	3	Feathercamp	3700	0-2 N	7	CO	....	....	....	....	.....	....	....	....	....	.....
31	24	WLC	8	Elder Mt.	1880	0-2 var	....	CC	....	....	1	....	116	....	....	....	2	8

32	24	Gvl	5	Rogrsvl FT	3000	0-6	NW	9	SC	5	1	....	....	102	....	....	1	3	7
33	24	F	8	Mendota FT	3000	0-3	NE	8	S	1	2	1	1	211	....	....	....	....	3
34	25	L	..	Elder Mt.	1880	....		....		....	....	....	....	79	....	....	....	....	.....
35	25	HR	7	Mendota FT	3000	0-2	S&W	w	S	5	2	....	1	442	1	....	1	....	2
36	25	I	3	Memphis 14		....		6-8	Cl	....	....	....	....	14	....	....	....	....	.....
37	26	I	6	Memphis 14		3	N	5-8	PC	1	....	....	....	71	....	....	....	....	4
38	26	CLT	5	Elder Mt.	1880	2	E	....		....	....	....	....	322	....	....	....	....	1
39	27	I	5	Memphis 14		1-2	S	6-8	S		2	....	....	83	....	....	....	....	.....
40	27	CL	3	Elder Mt.	1880	2	ESE	7	S	....	....	....	....	8	....	....	....	....	3
41*	27	D-C	5	Rogrsvl FT	3000	3-4	NNW	5-7	SC	....	1	....	1	203	....	....	1	....	7
42	28	I	3	Memphis 14		3-4	N	7-8		....	3	....	....	11	....	....	....	....	.....
43	28	CL	3	Elder Mt.	1880	4	ENE	7	PC	....	....	....	....	2	1	....	....	....	.....
44	29	L	..	Elder Mt.	1880	....		....		....	....	....	....	26	....	....	....	....	.....
45	29	CF	2	Mendota FT	3000	2	....	....	S	....	2	....	1	.....	....	....	....	....	.....
46	30	WL	6	Elder Mt.	1880		S&SE	7	O	....	1	....	....	10	....	....	....	....	13
47	30	F	8	Mendota FT	3000	5-6	SE	6	S	1	3	3	3	62	....	1	....	....	1
48	10/1	I	4	Memphis 14		3-4	S	6-7	LC	....	3	....	....	11	....	1	....	....	1
49	1	ZZ	8	Elder Mt.	1880	.....	var	....	TC	....	1	....	....	75	....	....	....	....	12
50	1	TF	6	Mendota FT	3000	6	ESE	7	S	1	1	2	....	5	1	....	....	....	6
51'	2	I	5	Memphis 14		5	NW	5-6	DO	....	1	....	....	10	....	....	2	....	1
52	3	I	5	Memphis 14		3	NW	4-7	VC	....	....	....	....	3	....	....	....	....	.....
53	6	CF	2	Mendota FT	3000	....		6	H	1	2	....	....	.....	....	....	....	....	3
54	14	I	5	Memphis 14		3-4	N	5-7	PC	....	....	6	....	.....	....	....	....	....	2
55	25	I	3	Memphis 14		3-4	S	5-8	Cl	....	....	4	....	.....	1	....	....	....	1
56	11/5	I	4	Memphis 14		3	SE	....	Cl	....	....	40	....	.....	....	....	....	....	9
57	6	I	4	Memphis 14		3	NE	....	Cl	....	....	29	....	.....	....	....	2	....	4
58	16	I	4	Memphis 14		....		....		....	....	4	....	.....	....	....	....	....	.....
59	17	I	4	Memphis 14		....		....		....	....	27	....	.....	....	....	....	....	.....
60	18	I	4	Memphis 14		....		....		....	....	5	....	.....	....	....	....	....	.....
61	19	I	3	Memphis 14		2-3	NW	4-5	PC	....	....	14	....	.....	....	....	....	....	.....
62	27	I	8	Memphis 14		4	N	4-6	CM	....	....	6	....	.....	....	....	....	....	.....
63	28	I	8	Memphis 14		3-4	NE	3-5	P	....	....	7	....	.....	....	....	....	....	.....
	TOTALS		286							25	34	163	10	5915	8	10	13	10	159

* 1 Rough-legged Hawk ' A fraction was arbitrarily assigned to "Unident", from the Memphis data. See Note 51.

41. Sept. 27: Elva Darnell and Carrie Christiansen, both of Greeneville, made the following comment: "Of the unidentified, four were flying low — large hawks, long narrow wings, but the underneath pattern and coloring just doesn't match anything in the books — immatures probably, but I won't hazard a guess. The other three were just too far away. The Rough-leg came in low, soon after we got up on the tower; the underpattern was clearly visible."

Of the 214 hawks listed, all but one appeared before 11:30; so the observers left at 1:30. This is the final report of the year from the Rogersville Fire Tower, on Clinch Mt., probably the best lookout we have, on the basis of the record, except for Elder Mt.

51. Oct. 2: "Bitter cold, 56 deg. high, NW wind 20 m.p.h., dark overcast. Monarch butterflies by the hundred thousands passed. From 11:00 to 1:00 they completely dominated the sky as far as the eye could see with 7x50 binoculars".

(Arthur Stupka once saw a large flight of monarchs passing across Newfound Gap).

The editor of the RAVEN, J. J. Murray, suggested that we should be on the watch for Swainson's Hawk in fall migration.

SKY CODE

Sky conditions in the language of the reports. BC—Broken Clouds; BH—Bright, with Haze; CC—Clear to Cloudy; Cl—Cloudy to Clear; CM—Clouds and Mist; CO—Clear to Overcast; DO—Dark Overcast; FR—Fog and Rain; H—Haze; LC—Low Clouds; MB—Murky, with Blue patches; O—Overcast; P—Perfect; PC—Partly Cloudy; S—Sunshine; SC—Scattered Clouds; TC—Thin scattered Clouds; VC—Very Cloudy.

Temperatures are given in degrees F, divided by 10, and rounded off to one figure. Wind speeds are according to the Beaufort Wind Scale (THE MIGRANT **31**, 10, 1960)

KEY TO REPORTERS

A-K—Judith Abbott and Thelma Kennedy, Bristol; B—Fred Behrend, Elizabethton; B-D—Behrend and Dubke; CC—Mrs. Crownover and Mrs. Cross, Chattanooga; CoB—Wallace Coffey and Fletcher Bingham, Bristol; CF—Charlotte Finucane, Kingsport; CL—Rock Comstock and J. E. Lawson, Chattanooga; CLT—Mrs. Crownover, Mrs. Tunsberg, and Mr. Lawson; D-C—Mrs. Elva Darnell and Mrs. Carrie Christiansen, Greenville; F—Finucane, Kingsport; Gvl—Dr. and Mrs. Spees, Lynn, Karl, David, and Wade Spees, Mrs. Darnell, and Mr. and Mrs. Nevius; HR—Holmes Rolston, Bristol; I—Oliver Irwin, Memphis; L—J. E. Lawson, Chattanooga; MS—Maxie Swindell, Knoxville; N—Nevius, Greeneville; RG—Enno van Gelder and son Roger, Bristol; Sw—Ann Switzer, Kingsport; T—James Tanner, Knoxville; TF—Thomas Finucane and son Tommy; W—Adele West, Chattanooga; XX—Mr. and Mrs. West, Mrs. Crownover, Miss Gladys Conner, Miss Mable Norman, and Mr. Lawson; YY—Thomas, Joseph, and Daniel Finucane, T. A. Odum, Holmes Rolston, and Rockwell Smith; ZZ—Mr. and Mrs. West, Mr. and Mrs. Crownover, Mr. Lawson, and Mrs. Harvey Wilkinson, Chattanooga.

THE 1961 CHRISTMAS SEASON BIRD COUNT

By T.O.S. Members

The thirty-first annual Christmas Bird Count tabulated in THE MIGRANT lists 118 species and subspecies. This number has been exceeded on only three counts, 1954, 1955 and 1960, when 122 species were listed each year. This count was equalled in 1959. Counts were reported from fifteen areas which, is equalled only by the 1960 count. Thirteen of the counts are listed in the table while the two high altitude counts (Cosby and Big Bald Mountain) are recorded in paragraph form under the appropriate heading. Only one species, Common Raven, occurs only in the high altitude lists. The Red-cockaded Woodpecker appears in the list for the first time. This brings the total number of species and subspecies which have been recorded on all Christmas Counts, beginning in 1931, to 162.

Seventeen species occur in all of the tabulated lists while eight other species are absent from only one list. Twenty-five species were listed at only one location and nine of these were represented by a single individual.

Information on the counts and localities represented are presented progressively, across the state, from west to east.

INFORMATION ON THE COUNTS

MEMPHIS. — 1953 areas generally; wooded bottomlands 22%, deciduous woods, city parks & cemeteries 30%, pastures, farms, airfield 20%, suburban roadsides 25%, river edge 3%. Dec. 24, 7 a. m. to 4:30 p. m. Overcast, temp. 30-35, wind 9-14 NW, muddy, many bottoms flooded, part inaccessible. 21 observers in 7 parties. Total party-hours, 77 (59 on foot, 18 by car); total party-miles, 173 (53 on foot, 120 by car). Meadowlarks quiet, account unfavorable weather; Westerns regularly at Penal Farm, 5 heard, fast run, Dec. 25, BC (1 Turkey Vulture same time). Screech Owl called at Coffey Grounds Dec. 20 & 26; Barn Owl, Dec. 26, Oliver Irwin; Red-breasted Nuthatch near Museum Dec. 22 & 27, Earl Fuller. Tree Sparrows (LC) first on Count since 1954. Pine Siskins, 1st on a Memphis Count, special search by McCamey (3 there, Dec. 2, BC). Small blackbird roost on river towhead, inaccessible, not included except partial flight line nearby. Mr. and Mrs. Ben B. Coffey, Jr., Mrs. Ed Carpenter, Mary Davant, Jack Embury, Earl Fuller, Oliver Irwin, Ed King, Franklin McCamey, Jr., Charles McPherson, Jr., Mrs. J. H. McWhorter, Nelle Moore, John Morrow, George Peyton, Jr., S. Jack Rini, Jim Rini, Prof. and Mrs. Arlo Smith and Lynn Smith, Mr. and Mrs. Charles Wilmeth. Also Mrs. Charles Seahorn and Mrs. Paul C. Owen in their yards.

REELFOOT LAKE. — All points within a 15-mile diameter circle, center Reelfoot Lake; lake 20%, marsh 5%, deciduous woods 45%, field and farm 18%, roadside 12%. Dec. 30; 7 a. m. to 5 p. m. Scattered clouds; temp. 20° to 37°; wind E 0-2 m.p.h. 8 observers in 3 parties. Total party-hours, 26 (6 on foot, 16 by car, 4 by boat); total party-miles, 161 (13 on foot, 143 by car, 5 by boat). (Seen in count period but not on count day: Ruddy Duck). Mikey Buzzard, Evelyn Cole, John R. Conder (compiler), John L. DeLime, W. Fickel, Willard Gray, Dr. Hunter M. Hancock, James W. Wilke.

NASHVILLE. — Dec. 30. Approx. same area as in past 11 years, area of a 15 mile diam. circle centering on Harding 7 mi. W. of Nashville. Included were river bottoms, 10 suburban feeding stations, Bush's 42 acre lake and Radnor 80 acre lake. 6:30 a. m. to 4:30 p. m.; clear up to 3 p. m.; temp. 20 to 39 degrees; wind very light; ground bare and frozen after period of snow and cold. Total 84 species (a record number), 9,800 individuals. Robins, Grackles and Cowbirds are wintering elsewhere this year; Starlings not abundant; Bluebirds still relatively scarce. The single acre of Bush's lake not frozen over was full of waterfowl, including Coots, gulls and 13 species of ducks. 8 parties including 23 observers (6 to 10 hours afield) were: B. H. Abernathy, O. C. Ault, Mrs. Wm. F. Bell, Ruth Castles, Annella Creech, Mrs. L. DeBrohun, Milbrey Dugger, John O. Ellis, Chas. F. Farrell, Albert F. Ganier (compiler), Katherine Goodpasture, Virginia Hagan, Wayland Hayes, Mr. and Mrs. John S. Herbert, Will H. Hon, Marguerite McKinney, John Ogden, Henry E. Parmer, Jennie Riggs, Mrs. Kirby Stringer, Paul Stumpf, Laurence and Larry Trabue, Jesse E. Wills and Ruth White. Mrs. Stringer compiled a list of 37 species observed by other members watching their feeding stations and home grounds, as follows: Merrill Carter, Mrs. Chas. Cornelius, Mrs. K. B. Everly, Mrs. Ralph Faitoute, Mrs. Wm. Fentress, Miss Mary Frazer, Dr. and Mrs. Hugh L. Fry, Mr. and Mrs. A. B. Grose, Mrs. Herman Knauth, Mrs. R. E. Lynn, Mrs. W. A. Puryear, Mr. and Mrs. Max Schuerman.

OLD HICKORY. — The first Christmas Count for this area was taken within a 15 mi. diameter circle with the center at Cages Bend and included the north and south shores of Old Hickory Lake as well as the adjacent farm land and woods between the dam and Gallatin Bridge; lake shores 35%, mixed cedars, deciduous woods 30%, farm land 15% and brushy fields 20%. Jan. 1, 1962; 8 a. m. to 4:30 p. m.; Temp. 31° to 29°; wind NW, 10 to 12 m.p.h.; sky overcast, ground bare. Three observers in one party. Total hours, 8½ (2½ on foot, 6 by car); total party-miles, 88 (4 on foot, 84 by car. The Black Vultures were all in one group, possibly from a nearby roost. This is only the second consecutive winter that Bonaparte's Gulls have wintered on the lake. Alan R. Munro, John C. Ogden (compiler) and Henry E. Parmer.

LEBANON. — Selected areas on a 7-mile radius from Lebanon, including Lock 5 Wildlife Refuge and adjacent portions of Old Hickory Lake (Cumberland River). Areas covered about evenly divided among open fields, woods, flooded fields and open water. December 28, 4 a. m. (for owls) to 4 p. m. Cloudy and snowing in flurries all day. Ponds and small streams frozen except at spring runs, temperature ranged from 20 to 29 degrees. Twelve observers in nine parties. Observations made on foot, by car and motor boat. Impossible to make a close estimate of number of miles covered. Territory covered is substantially the same as that covered in all recent censuses. Mrs. George R., Misses Jane and Mildred Bouton, Misses Margaret and Martha Campbell, John M. Drennon, Judge Sam B. Gilreath, Dixon Merritt (compiler), Henry Parmer, Mrs. Henry Waters, Miss Mary Wharton and Dr. R. D. Wilkinson.

COOKEVILLE. — All points within 15-mile diameter circle. Dec. 28; 7:30 a. m. to 4:30 p. m. Cloudy, little sunshine, snow flurries; temp. 20° to 34°; wind 2-20 m.p.h. Thirteen observers. Dr. J. O. Cummins, Mrs. Caprice Haile, Roy Hinds, P. L. Hollister (compiler), Miss Elizabeth Killifer, Dr. & Mrs. Sidney McGee, Dr. and Mrs. J. T. Moore, Mrs. Connie Peterson, Miser Richmond, Miss Chrissa Wendt, Mrs. Milo Williams.

CHATTANOOGA. — (all points within a 15-mile diameter circle, center National Cemetery in city; fields and pastures 35%, woodlands 20%, ponds and lake 15%, creeks and river 15%, roadside 10%, residential 5%). Dec. 31; 6 a. m. to 5 p. m. Cloudy, occasional rain; temp. 34° to 41°; wind SW, 5 m.p.h. Seventeen observers in 9 parties. Total party hours, 70 (38 on foot, 32 by car); total party miles, 316 (42 on foot, 274 by car). Total, 76 species; 12,066 individuals. (Seen in area count period, but not on count day: Hooded Merganser.) Leo Acuff, Mr. and Mrs. T. Stanley Barr, Benton Basham, Mr. Rock L. Comstock, Jr. (compiler), Mrs. Rock L. Comstock, Jr., Miss Gladys Conner, Mrs. Leon F. Cross, Mrs. Hugh Crownover, John R. Freeman, E. O. Grundset, Mr. & Mrs. Nat Halverson, John Leach, James A. Tucker, Mr. & Mrs. Eugene M. West. (Chattanooga Chapter, T.O.S.)

KNOXVILLE. — (All points within a 15-mile diameter circle, center Oak Ridge Highway and Ball Camp Pike, to include Powell Station, Fountain City, Island Home, mouth of Little River and Andrew Jackson Lake): deciduous and pine woodlots 15%, open farmland and old fields 30%, feeding stations and suburban 5%, river and lakes 15% and roadsides 35%.

Jan. 1, 1962; 7:30 a. m. to 5:30 p. m.; Temp. 31° to 36°; wind NE 0-5 m.p.h. in afternoon; overcast, with a 3-4 inch snow falling until noon. Snow hampered complete coverage because of hazardous driving conditions and some birding was done in vicinity of homes and feeding stations. Eight observers in 7 parties, plus three at feeding stations. Total party-hours, 56 (45 on foot, 11 by car); total party-miles, 70 (28 on foot, 42 by car). Total species, 57, about 2,628 individuals. (Seen in area count period, but not on count day: Lincoln's Sparrow, Marsh Hawk, Common Snipe, Screech Owl, E. Bluebird, Redwinged Blackbird, Brown-headed Cowbird). The Lincoln's Sparrow came into my yard, which is next to a woods and field overgrown with honeysuckle on Dec. 28 (the day it snowed) and ate wild bird seed mixture along with possibly 40 other birds, including White-throated, Fox, Swamp and Field Sparrows, Cardinals, Towhees, and Mourning Doves. I saw it through the window, about 12' away, also with binoculars and carefully looked it over for about 3 or 4 minutes, when it became suspicious and left. It did not come back. It had all of the field marks of Lincoln's Sparrow, including the broad buffy band across the breast and fine distinct streaks, since I've seen Lincoln's Sparrow on 3 occasions, with ornithologists present, I'm positive of it (Mary Enloe). Dorothy Boruff, Jessie Dempster, John Elson, Mary Enloe (compiler), Beth Lacy, Holly Overton, J. B. Owen, Maxie Swindell.

GREAT SMOKY MOUNTAINS NATIONAL PARK. — (all points within a 15-mile diameter circle, center near Crib Gap, approximately 3 miles east of Cades Cove; open farm land, 15 per cent; old fields, 20 per cent; forests, 35 per cent; roadsides, 20 per cent; stream courses and 60-acre reservoir, 10 per cent).

THE 1961 CHRISTMAS SEASON BIRD COUNT

	Memph.	Reelf. L.	Nash.	Old Hic.	Leb.	Cooke.	Chat.	Knox.	G. Smo.	Green.	King.	Br.	Eliz.
Common Loon	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Horned Grebe	.....	.....	.....	12	.....	.....	19	.....	.....	.....	1	.....	.....
Pied-bld. Grebe	3	1	1	8	.....	1	3	.....	2	.....	3	.....	4
Dbl.-cr. Cormorant	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grt. Bl. Heron	4	43	6	.....	.....	.....	.....	27	2	.....	2	1	1
Common Egret	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bl.-cr. N. Heron	.....	.....	14	17	.....	.....	1	.....	.....	.....	.....	.....	.....
Canada Goose	.....	10,000	1	.....	35	.....	.....	.....	.....	13	.....	.....	.....
Hutchin's Goose	.....	125	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blue Goose	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mallard	17	35,000	19	10	6,100	7	6	.....	5	.....	1	.....	.....
Black Duck	2	225	8	.....	1,900	3	131	.....	3	.....	.....	12	.....
Gadwall	.....	1,500	.....	.....	50	.....	5	.....	.....	.....	.....	.....	.....
Pintail	.....	350	4	.....	10	.....	.....	.....	.....	.....	.....	.....	.....
Gr.-w. Teal	.....	75	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bl.-w. Teal	1	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Am. Widgeon	2	650	8	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shoveler	.....	456	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wood Duck	.....	35	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	1
Redhead	.....	5	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ring-necked Duck	8	2,800	52	7	200	.....	69	1	29	1	.....	.....	17
Canvasback	.....	200	27	.....	5	.....	12	.....	.....	.....	.....	.....	.....
Greater Scaup	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lesser Scaup	75	10	83	27	125	2	29	.....	.....	.....	.....	.....	3
Com. Goldeneye	3	25	3	6	.....	.....	2	.....	.....	.....	.....	.....	10
Bufflehead	.....	10	2	1	.....	.....	1	.....	1	.....	.....	1	33
Ruddy Duck	1	.....	5	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Hd. Merganser	.....	25	.....	76	.....	.....	.....	.....	.....	.....	.....	.....	4

Red-br. Merganser	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....
Turkey Vulture	.....	.....	1	.....	5	4	.....	.....	.....	6	.....	24	.....
Black Vulture	1	2	.....	98	100	.....	.....	.....	.....	1	.....	.....	.....
Sharp-shd. Hawk	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Cooper's Hawk	1	1	4	.....	2	.....	1	1	2	1	.....	.....	.....
Red-tailed Hawk	20	18	28	5	6	4	6	3	1	3	.....	.....	.....
Red-shld. Hawk	2	6	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rough-legged Hawk	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bald Eagle	.....	17*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marsh Hawk	5	6	3	2	1	1	5	.....	.....	.....	.....	.....	.....
Peregrine Falcon	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Sparrow Hawk	11	4	32	19	9	3	7	2	4	4	.....	2	2
Ruffed Grouse	.....	.....	.....	.....	.....	.....	.....	.....	3	1	.....	.....	.....
Bobwhite	78	.....	42	23	30	30	8	8	12	22	8	.....	20
Turkey	.....	.....	.....	.....	.....	.....	.....	.....	11	.....	.....	.....	.....
Am. Coot	47	1,200	204	67	10	.....	2	.....	50	.....	.....	.....	.....
Killdeer	26	14	86	5	13	6	93	35	8	17	3	.....	6
Com. Snipe	4	24	2	.....	.....	2	6	.....	7	.....	.....	.....	2
Herring Gull	20	39	20	22	24	.....	2	3	.....	.....	4	.....	.....
Ring-bld. Gull	80	72	275	313	6	.....	96	67	.....	.....	14	.....	.....
Bonaparte's Gull	.....	.....	.....	27	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mourning Dove	240	21	285	7	1,020	69	272	115	132	91	1	12	9
Barn Owl	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Screech Owl	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grt. Horned Owl	1	2	1	.....	4	.....	.....	.....	.....	1	.....	.....	.....
Barred Owl	1	1	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Blt. Kingfisher	2	8	13	6	4	.....	11	2	4	6	.....	2	4
Yel.-sh. Flicker	102	18	47	2	16	16	74	10	7	4	1	.....	5
Pil. Woodpecker	3	23	25	.....	2	.....	9	8	17	7	2	.....	1
Red-bel. Woodpecker	63	52	70	7	12	12	44	17	3	14	1	2	2
Red-head. Woodpecker	12	1	2	.....	.....	3	12	2	.....	.....	.....	.....	.....

* (4 adults — 13 immatures)

Yel.-bel. Sapsucker	27	8	15	1	4	5	17	9	6	6	2	1	4
Hairy Woodpecker	16	7	20	.....	2	4	9	2	12	1	.....	.....	.....
Downy Woodpecker	44	31	87	3	12	22	48	27	55	16	7	8	15
Red-cock. Woodpecker	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
E. Phoebe	.....	.....	2	.....	2	4	2	1	8	3	.....	1	2
Horned Lark	935	.....	200	5	.....	13	11	15	.....	2	.....	.....	17
Blue Jay	368	21	88	26	43	136	428	75	44	45	30	18	32
Com. Crow	45	766	980	59	200	260	356	128	360	1,000	25	55	166
Fish Crow	74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black-cp. Chickadee	.....	.....	.....	.....	.....	.....	.....	.....	140	.....	.....	.....	.....
Carolina Chickadee	107	129	170	18	8	29	141	58		64	37	28	46
Tufted Titmouse	62	89	155	11	13	50	122	66	65	71	35	22	29
Wh.-br. Nuthatch	4	21	8	.....	2	14	45	16	14	13	12	6	6
Red-br. Nuthatch	.....	6	1	.....	.....	.....	3	12	33	11	4	.....	9
Brown Creeper	13	5	5	.....	2	2	7	5	8	4	3	2	2
Winter Wren	12	8	3	.....	.....	.....	4	1	17	2	.....	.....	.....
Bewick's Wren	.....	.....	14	.....	8	4	2	2	2	4	.....	.....	.....
Carolina Wren	64	8	53	2	11	6	91	39	20	21	8	8	13
Mockingbird	93	9	110	10	12	30	97	37	4	31	10	12	24
Catbird	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Brown Thrasher	23	.....	1	.....	.....	3	25	2	1	.....	.....	1	.....
Robin	74	3	11	.....	30	.....	470	1	6	5	.....	3	4
Hermit Thrush	10	2	5	.....	.....	.....	3	1	25	.....	.....	.....	4
E. Bluebird	1	5	40	.....	.....	7	24	.....	12	3	.....	.....	.....
Go.-cr. Kinglet	31	23	5	4	1	.....	23	19	59	2	3	.....	7
Ruby-cr. Kinglet	14	21	5	.....	.....	.....	12	1	12	.....	1	1	2
Water Pipit	.....	.....	91	16	.....	.....	67	4	.....	.....	.....	.....	.....
Cedar Waxwing	57	.....	16	.....	.....	.....	710	34	.....	.....	6	.....	.....
Lgr-hd. Shrike	16	8	21	5	8	2	21	3	5	4	.....	.....	2
Starling	15,000	1,000,000	3,000	320	500	2,250	3,820	852	110	1,010	160	165	1,480
Myrtle Warbler	55	2	210	3	20	.....	235	27	30	6	.....	1	10
Pine Warbler	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....

Palm Warbler	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
House Sparrow	610	405	300	22	.....	207	252	83	50	107	20	186	421
E. Meadowlark	353	82	360	8	13	103	411	105	202	74	1	8	120
Redw. Blackbird	10,000	1,500,000	183	.....	.....	4	79	.....	22	.....	.....	.....	1
Rusty Blackbird	73	.....	.....	.....	.....	2	54	.....	.....	.....	.....	.....	.....
Brewer's Blackbird	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Com. Grackle	5,000	700,000	68	.....	.....	575	36	2	.....	9	.....	.....	.....
Br.-hd. Cowbird	1,000	500,000	.....	.....	.....	2	.....	.....	1	.....	.....	.....	35
Cardinal	558	199	525	109	104	222	449	181	143	125	39	32	102
Evening Grosbeak	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Purple Finch	42	.....	5	.....	7	26	75	15	5	12	2	2	7
Pine Siskin	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Am. Goldfinch	153	2	195	3	.....	2	298	28	26	23	3	.....	45
Rufus-sd. Towhee	112	2	105	10	20	65	183	75	11	3	4	8	5
Savannah Sparrow	14	1	16	.....	.....	2	7	11	.....	.....	.....	.....	1
Vesper Sparrow	.....	.....	.....	.....	.....	.....	18	.....	.....	.....	.....	.....	.....
Sl.-col. Junco	663	139	475	86	116	123	499	89	340	137	17	30	212
Chipping Sparrow	.....	2	.....	.....	.....	.....	11	.....	.....	.....	.....	.....	.....
Tree Sparrow	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Field Sparrow	198	25	215	47	21	26	623	38	140	126	8	.....	46
Wh.-cr. Sparrow	16	27	29	12	19	8	.....	21	.....	25	2	.....	28
Wh.-th. Sparrow	1,353	176	248	23	27	74	529	136	55	193	30	30	46
Fox Sparrow	69	16	22	.....	1	.....	6	10	3	.....	.....	1	6
Swamp Sparrow	118	301	104	5	3	6	59	1	150	.....	.....	.....	5
Song Sparrow	231	43	227	28	5	5	301	69	106	53	9	11	44
Lapland Longspur	501	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPECIES	**76**	**83**	**84**	**51**	**57**	**50**	**75**	**56**	**62**	**50**	**38**	**34**	**54**
Individuals	636,473	3,755,683	9,812	1,641	10,915	4,456	11,616	2,602	2,610	3,403	519	696	3,123

GRAND TOTAL SPECIES, 118; GRAND TOTAL INDIVIDUALS, 4,442,718, including high altitude counts.

December 31, 1961. 7:30 a. m. to 5:30 p. m. Overcast; temperatures 28° to 40°; wind variable, 1-7 m.p.h.; 1 to 3 in. snow on ground, some waters frozen.

19 observers in 5 parties. Total party-hours, 48 (41 on foot, 7 by car); total party-miles, 167 (37 on foot, 130 by car). Total, 63 species (1 additional race); 2,610 individuals.

Robert Bennett, Mildred Edmundson, John Elson, Mary Enloe, Elizabeth French, Mr. and Mrs. H. C. Garlinghouse, David Highbaugh, Dr. Joseph C. Howell, Phillip Huff, Henry W. Lix, Susan Lix, Vernon N. Lix, Arthur Stupka, Mrs. T. C. Swindell, Dr. Isabel H. Tipton, Dr. Samuel R. Tipton, Mr. and Mrs. George R. Wood (Tennessee Ornithological Society, National Park Service, and guests).

COSBY. — Eastern Smoky Mountains. Start at Cosby Recreation area to Low Gap on the Appalachian Trail along trail to Black Mountain to Valintine's nursery by way of Maddron Bald and Indian Camp Creek trail then along northern boundary of park for 1½ miles; evergreen woods 30%, mixed woods 65%, bald growth 5%. Jan. 7; 8 a. m. to 4:30 p. m. Heavy fog up to 4,500', cloudy from there on; temp. 32° to 25°; wind 2 to 40 m.p.h. Lower elevations little snow, upper elevations covered 90% with crusty snow. One observer. Total hours 8½ on foot; total miles 18 on foot. Ruffed Grouse, 8; Pileated Woodpecker, 1; Hairy Woodpecker, 12; Downy Woodpecker, 5; Common Raven, 5; Black-capped Chickadee, 22; Carolina Chickadee, 17; Tufted Titmouse, 7; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 7; Brown Creeper, 11; Winter Wren, 2; Golden-crowned Kinglet, 12; Ruby-crowned Kinglet, 7; Cardinal, 2 and Slate-colored Junco, 57. Total, 17 species; about 178 individuals. Richard Nevius, Greeneville.

GREENEVILLE. — (All points within a 15 mile diameter circle, center Mt. Pleasant Church, to include Lick Creek, Roaring Fork, Davey Crocket Lake, Nolichucky River, Paint Creek, Albany, Marvin, Tusculum, Greeneville; woodland 50%; deciduous with small patches of pines and cedars, open fields and pastures 40%, includes ponds and lakes; towns 9%, farmyards 1%).

Dec. 31; 8:30 a. m. to 5:15 p. m. (at 11:30 p. m. the two Great-Horned Owls were heard for 30 min.) cloudy, occasional short flurries of sleet; temp. 28 to 34 degrees; practically no wind; 2 to 4 inch snow covering 80% of the ground, all ponds and small streams frozen over.

Seventeen observers in 9 parties. Total party-hours, 19 (14 on foot, 5 by car); total party-miles, 65 (5 on foot, 60 by car).

Total, 51 species; about 3429 individuals. (Seen in area during count period, but not on count day: Great Blue Heron, Palm Warbler, Screech Owl, Common Snipe and a large flock of Horned Larks.)

Mrs. O. C. Armitage, Dr. and Mrs. Turner Clinard, Mr. and Mrs. Willis Clemens, Mrs. Carrie Christiansen, Mrs. Chester Darnell, Mr. and Mrs. King Gaut, Mr. and Mrs. Walter Gray, Mrs. Wilma Irvin, Mrs. Ollie Jaynes, Mrs. Richard Nevius, Richard Nevius (compiler), Dr. and Mrs. Royal Spees, Karl and David Spees.

BIG BALD MOUNTAIN, Unicoi Co. Tenn. - Madison Co. N. Car. — Ascent from Higgins Creek to Appalachian Trail to top of Big Bald, side trip to Slipper Spur. Deciduous woodland 70%, grassy treeless areas 20%, open mountain road 10%. Dec. 31; 7:15 a. m. to 3:30 p. m. Cloudy, snow

flurries, fog; SW wind 3 to 15 m.p.h. Trees covered with frost and snow, 4 - 13" snow. One observer. Six miles on foot, 3,100 - 5,500'. Pileated Woodpecker, 1; Hairy Woodpecker, 4; Downy Woodpecker, 2; Common Raven, 2 (only birds at elevation above 4,500') Carolina Chickadee, 2; Tufted Titmouse, 1; White-breasted Nuthatch, 2; Cardinal, 2; Slate-colored Junco, 2. Total, 9 species; about 18 individuals. Fred W. Behrend, Elizabethton.

KINGSPORT. — Same area as in previous years. Jan. 1, 1962; 9 a. m. to 5 p. m. Foul weather, rain and wet snow falling, 1" snow; small ponds frozen, rivers open; wind light; temp. 34° to 37°. Five observers; party-hours 22; party-miles 10, on foot. Joseph and Thomas Finucane, E. W. Gift, Mrs. J. Winston Smith, Mrs. R. M. Switzer.

BRISTOL. — Same area as in previous years. Dec. 31; 8 a. m. to 5 p. m. Cold - snow, 28° to 30°. Eleven observers. Mr. & Mrs. E. H. Dickey, Sr., Mr. and Mrs. H. C. Epperson, Mr. & Mrs. Robert Faucette (compiler), Mrs. Earl Francisco, Mr. and Mrs. Herbert Miller, Mr. and Mrs. H. Nunley.

ELIZABETHTON. — All points within 15-mile diameter circle, center Wilbur Dam. Dec. 30; 7:30 a. m. to 5:30 p. m. Snow flurries during early morning to sunshine during afternoon. 2" to 4" of snow on ground, lakes and streams open. Temp. 21° to 32°; wind 0 to 15 m.p.h. Five observers in 4 parties. Total party-hours, 26 (12 on foot, 14 by car); total party-miles, 68 (16 on foot, 52 by car). (Seen in area during count period but not on count day: Horned Grebe, Ruffed Grouse). J. C. Browning, Ed Davidson, Mr. Lee R. Herndon (compiler), Mrs. Lee R. Herndon, Roby D. May, Jr.

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Lincoln's—**1959:** 9, 24, 41, 58; **1960:** 33, 45, 71, 77; **1961:** 7, 10, 33, 67.
Rufous-winged—**1961:** 12.
Savannah—**1959:** 24, 34, 67; **1960:** 16, 33, 64, 70, 77; **1961:** 10, 33, 43, 71.
Sharp-tailed—**1960:** 63, 64, 70.
Song—**1959:** 16, 24, 34, 41, 58, 67; **1960:** 13, 16, 33, 36, 37, 39, 59, 64, 77, 78; **1961:** 9, 10, 33, 71.
Swamp—**1959:** 24, 60, 67; **1960:** 33, 64, 70, 77; **1961:** 33, 67, 71.
Tree—**1959:** 16, 41; **1960:** 10, 12, 15, 29, 33, 37, 38, 77, 80; **1961:** 4, 5, 33, 65, 71.
Vesper—**1959:** 15, 24, 34, 62, 67; **1960:** 33, 64, 70, 71, 77, 78; **1961:** 9, 10, 33, 71.
White-crowned—**1959:** 10, 15, 24, 37, 41, 67; **1960:** 16, 17, 33, 70, 72,

77; **1961:** 8, 10, 33, 71.
White-throated—**1959:** 10, 16, 24, 29, 37, 41, 58, 60, 67; **1960:** 14, 16, 17, 33, 36, 37, 39, 64, 70, 72, 77, 78; **1961:** 9, 10, 15, 33, 67, 71.
Spoonbill, Roseate—**1959:** 59.
Starling—**1959:** 11, 13, 16, 17, 23, 26, 29, 34, 38, 39, 60, 61, 67; **1960:** 13, 14, 17, 32, 39, 46, 59, 68, 70, 76, 79; **1961:** 2, 6, 8, 9, 14, 32, 66, 70.
Swallow Bank—**1959:** 14, 20, 22, 34; **1960:** 11, 31, 44, 45, 70; **1961:** 31, 41, 43.
Barn—**1959:** 14, 22, 34; **1960:** 31, 45, 47, 70; **1961:** 31, 39, 43.
Cliff—**1959:** 14, 22, 34, 54; **1960:** 31, 43, 44, 45, 70; **1961:** 31, 37, 38, 39, 40, 41, 42, 44.
Rough-winged — **1959:** 14, 22, 34; **1960:** 31, 59, 70; **1961:** 31, 37, 40, 42, 45.
Tree—**1959:** 14, 22, 34, **1960:** 11, 31, 44, 70; **1961:** 31, 45.
Swan, Whistling—**1959:** 56, 68.
Swift, Chimney—**1959:** 17, 22, 29, 34, 39; **1960:** 31, 39, 47, 48, 59, 69; **1961:** 31, 42, 61.
Vaux's—**1961:** 11.
Tanager, Scarlet—**1959:** 15, 24; **1960:** 33, 39, 47, 59, 64; **1961:** 33, 42.
Summer—**1959:** 15, 24; **1960:** 33, 39, 51, 59, 64, 80; **1961:** 33, 54.
Teal, Blue-winged—**1959:** 9, 11, 21, 31, 37, 38, 64; **1960:** 18, 30, 44, 54, 63, 64, 68, 72, 74; **1961:** 30, 42, 68.
Green - winged — **1959:** 9, 16, 64; **1960:** 18, 39, 68, 74; **1961:** 68.
Tern, Black—**1959:** 34, 37; **1960:** 44, 46, 69; **1961:** 3, 18, 19, 30, 43, 49, 51.
Caspian—**1959:** 14; **1961:** 4, 18, 19, 29, 30, 49.
Common—**1959:** 14, 22, 24, 38; **1960:** 31, 69; **1961:** 43, 51.
Forster's—**1959:** 14, 22, 24, 34; **1960:** 46; **1961:** 31, 41, 42, 43.
Least—**1959:** 14, 34; **1960:** 47; **1961:** 31.
Thrasher, Brown—**1959:** 10, 11, 16, 23, 29, 34, 39, 40, 41, 66; **1960:** 12, 13, 14, 32, 39, 63, 64, 70, 76; **1961:** 5, 6, 8, 9, 32, 70.
Thrush, Bicknell's—**1961:** 10.
Gray-cheeked—**1959:** 23; **1960:** 32, 64; **1961:** 13, 32.
Hermit—**1959:** 11, 16, 18, 23, 41, 62, 66; **1960:** 14, 18, 32, 64, 73, 76; **1961:** 32, 70.
Olive-backed (see Swainson's).
Swainson's—**1959:** 15, 23, 36, 58; **1960:** 32, 59, 63, 64; **1961:** 10, 13, 32.
Wood—**1959:** 15, 23, 41; **1960:** 32, 39, 59, 64; **1961:** 32.
Titmouse, Tufted—**1959:** 10, 16, 22, 34, 41, 66; **1960:** 13, 15, 31, 39, 59, 70, 73, 76; **1961:** 31, 70, 72, 73.
Towhee, Rufous-sided—**1959:** 10, 16, 18, 24, 41, 67; **1960:** 33, 36, 39, 46, 59, 77, 78; **1961:** 31, 67, 71.
Trogon, Coppery-tailed—**1961:** 11.
Turkey—**1959:** 65; **1961:** 45, 69.
Veery—**1959:** 23, 37, 42; **1960:** 32, 39, 64; **1961:** 32, 45.
Vireo, Philadelphia—**1959:** 23, 37, 58; **1960:** 32, 45, 64, 65; **1961:** 14, 32, 44.
Red-eyed—**1959:** 14; **1960:** 32, 39, 59, 63, 64, 65, 67; **1961:** 32.
Solitary—**1959:** 20, 23; **1960:** 32, 63, 64; **1961:** 32.
Warbling—**1959:** 23; **1960:** 32, 39; **1961:** 32, 44.
White-eyed—**1959:** 23; **1960:** 32, 39, 59, 64; **1961:** 14, 32, 45.
Yellow-throated — **1959:** 23; **1960:** 32, 39, 64; **1961:** 32.
Vulture, Black—**1959:** 16, 21, 26, 61, 65; **1960:** 2, 3, 7, 17, 30, 35, 75; **1961:** 10, 17, 30, 66, 69.
Turkey—**1959:** 16, 21, 60, 65; **1960:** 2, 7, 16, 30, 35, 68, 75; **1961:** 30, 65, 69.
Warbler, Bachman's—**1959:** 19.
Bay - breasted — **1959:** 15, 23, 37; **1960:** 33, 39, 59, 64, 65; **1961:** 32.
Black and White—**1959:** 11, 20, 23, 42; **1960:** 32, 39, 64, 65; **1961:** 32, 47.
Blackburnian—**1959:** 15, 23, 37, 42; **1960:** 32, 39, 46, 64; **1961:** 32.
Blackpoll—**1959:** 23, 38; **1960:** 33, 39, 59, 63, 64; **1961:** 32.
Black-throated Blue—**1959:** 15, 23, 42; **1960:** 32, 45, 64; **1961:** 32, 61.
Black-throated Gray—**1961:** 11.
Black-throated Green—**1959:** 15, 23, 37; **1960:** 32, 46, 64; **1961:** 32.
Blue-winged—**1959:** 20, 23; **1960:** 32, 55; **1961:** 32, 51.

Brewster's—**1960:** 45, 55, 80; **1961:** 42.
Canada—**1959:** 24, 37, 38, 42; **1960:** 33, 39, 46, 59, 64; **1961:** 33.
Cape May—**1959:** 23; **1960:** 32, 39; **1961:** 32.
Cerulean—**1959:** 23, 37; **1960:** 32, 39, 64; **1961:** 32.
Chestnut-sided—**1959:** 23, 42; **1960:** 32, 59, 64; **1961:** 32.
Connecticut—**1959:** 23, 36; **1960:** 45, 59, 80; **1961:** 10, 33, 47.
Golden-winged — **1959:** 23, 36, 37; **1960:** 32, 46, 55, 64; **1961:** 32.
Hooded—**1959:** 20, 24, 42; **1960:** 33, 39, 64; **1961:** 33.
Kentucky—**1959:** 23, 42; **1960:** 33, 39, 64; **1961:** 13, 33, 47.
Lucy's—**1961:** 11.
Magnolia—**1959:** 23, 37; **1960:** 32, 46, 63, 64, 65, 67; **1961:** 13, 14, 32.
Mourning—**1960:** 46, 63, 64; **1961:** 33, 41, 42, 44.
Myrtle—**1959:** 10, 23, 34, 37, 67; **1960:** 13, 16, 17, 18, 32, 64, 70, 77; **1961:** 10, 32, 70.
Nashville—**1959:** 23, 37, 58; **1960:** 32, 64, 65; **1961:** 32.
Orange-crowned—**1959:** 20, 23, 36, 58; **1960:** 45, 63, 64; **1961:** 4, 32.
Palm—**1959:** 11, 23, 62, 67; **1960:** 33, 64, 67, 71, 77; **1961:** 32, 71, 72.
Parula—**1959:** 23, 42; **1960:** 11, 32, 63, 64; **1961:** 32.
Pine—**1959:** 23, 67; **1960:** 16, 33, 39, 63, 64, 77; **1961:** 32, 70.
Prairie—**1959:** 23; **1960:** 33; **1961:** 32.
Prothonotary — **1959:** 23, 34, 38; **1960:** 32; **1961:** 32, 39.
Red-faced—**1961:** 11.
Swainson's—**1959:** 23; **1960:** 32, 47; **1961:** 32, 42.
Tennessee—**1959:** 23, 37; **1960:** 32, 63, 64, 65, 67; **1961:** 14, 32.
Wilson's—**1959:** 24, 37, 38; **1960:** 33, 46, 63, 64; **1961:** 33.
Worm-eating—**1959:** 23, 36, 37; **1960:** 32, 39, 47, 63, 64; **1961:** 32.
Yellow—**1959:** 15, 23, 42, 54; **1960:** 11, 32, 39, 59, 64, 70; **1961:** 32.
Yellow-throated—**1959:** 23; **1960:** 32, 63, 64; **1961:** 32.
Waterthrush, Louisiana—**1959:** 23, 42; **1960:** 12, 33; **1961:** 33, 39.
Northern—**1959:** 23; **1960:** 33, 64, 65; **1961:** 33, 44.
Waxwing, Cedar—**1959:** 10, 11, 23, 59, 67; **1960:** 13, 14, 16, 17, 18, 32, 43, 59, 76; **1961:** 8, 10, 32, 44, 50, 70.
Whip-poor-will — **1959:** 22, 31, 36; **1960:** 31, 43, 44, 56, 63, 64, 80; **1961:** 31, 41, 45, 46.
Widgeon, American—**1959:** 11, 16, 21, 33, 64; **1960:** 14, 18, 30, 68, 74; **1961:** 30, 68.
Woodcock, American—**1959:** 21, 36, 37; **1960:** 15, 30, 46; **1961:** 5, 8, 9, 30.
Woodpecker, Downy—**1959:** 10, 16, 19, 22, 41, 63, 66; **1960:** 31, 39, 50, 69, 73, 76, 78; **1961:** 31, 70, 72, 73.
Hairy—**1959:** 16, 22, 41, 63, 66; **1960:** 31, 73, 76, 78; **1961,** 31, 70, 72, 73.
Ivory-billed—**1959:** 19, 59.
Northern Three-toed—**1960:** 13, 50, 80.
Pileated—**1959:** 8, 16, 22, 34, 63, 66; **1960:** 17, 31, 39, 51, 59, 73, 75; **1961:** 31, 69, 72, 73.
Red-bellied—**1959:** 10, 16, 22, 34, 41, 66; **1960:** 31, 69, 75; **1961:** 31, 69.
Red-cockaded—**1960:** 47; **1961:** 29, 31, 65, 70.
Red-headed—**1959:** 16, 22, 36, 39, 66; **1960:** 3, 31, 47, 51, 59, 76; **1961:** 4, 19, 31, 69.
Wren, Bewick's—**1959:** 22, 66; **1960:** 32, 44, 76; **1961:** 7, 31, 46, 70.
Carolina—**1959:** 16, 18, 22, 41, 66; **1960:** 13, 32, 39, 48, 59, 70, 72, 76; **1961:** 10, 32, 70.
House—**1959:** 22, 38, 66; **1960:** 32, 44, 63, 64; **1961:** 4, 10, 31, 44.
Long-billed Marsh—**1959:** 23; **1960:** 32, 64; **1961:** 32, 45.
Short-billed Marsh — **1959:** 23, 24, 38; **1960:** 45, 47, 76; **1961:** 32, 42.
Winter—**1959:** 10, 16, 18, 41, 42, 63, 66; **1960:** 16, 32, 76; **1961:** 8, 31, 45, 70, 72.
Yellowlegs, Greater — **1959:** 22, 25; **1960:** 10, 31, 44, 54; **1961:** 4, 30, 45.
Lesser—**1959:** 14, 22, 34, 55; **1960:** 16, 31, 44, 54, 69; **1961:** 4, 18, 30.
Yellowthroat—**1959:** 15, 20, 23, 42; **1960:** 33, 39, 59, 63, 64; **1961:** 4, 33.

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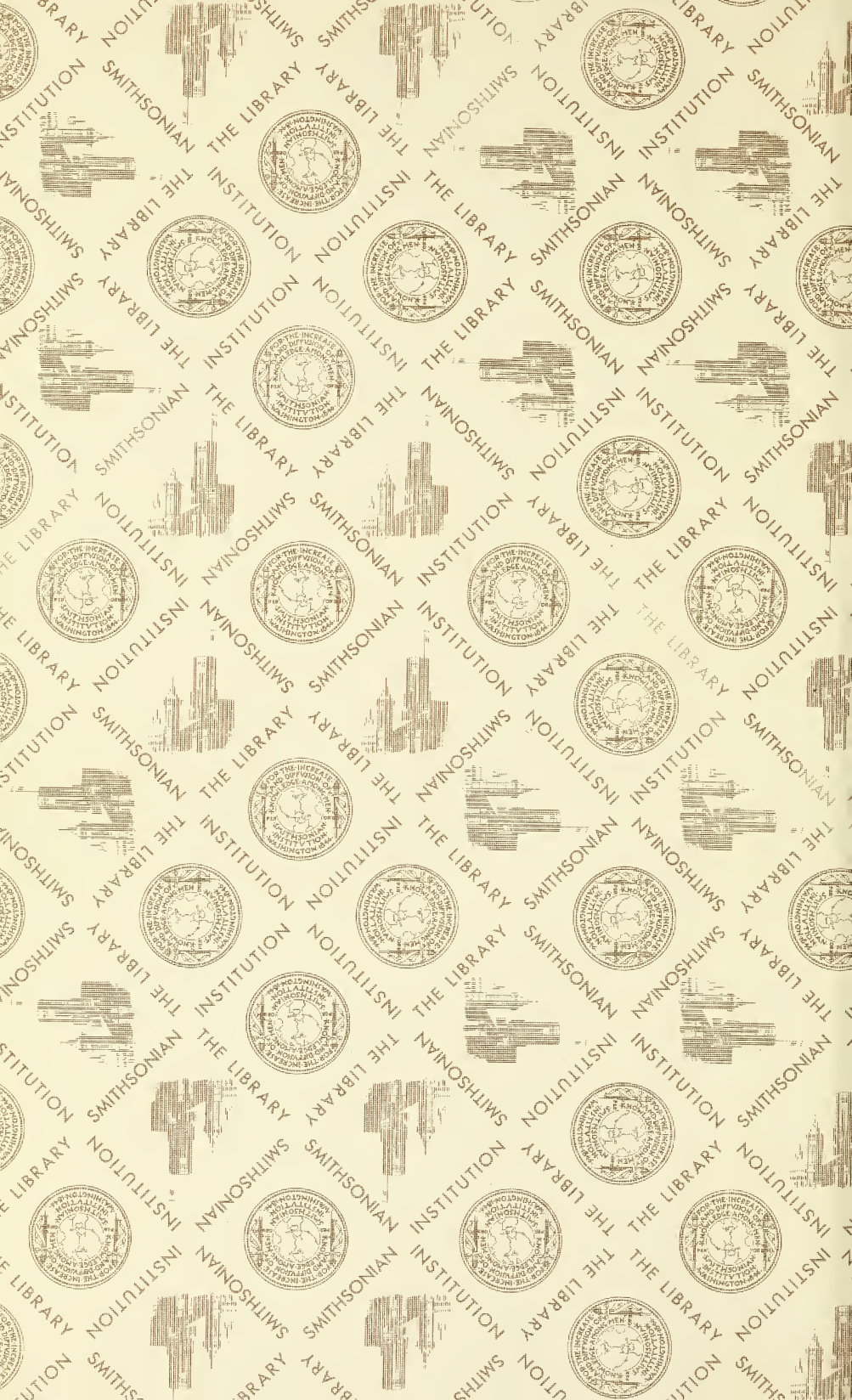
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